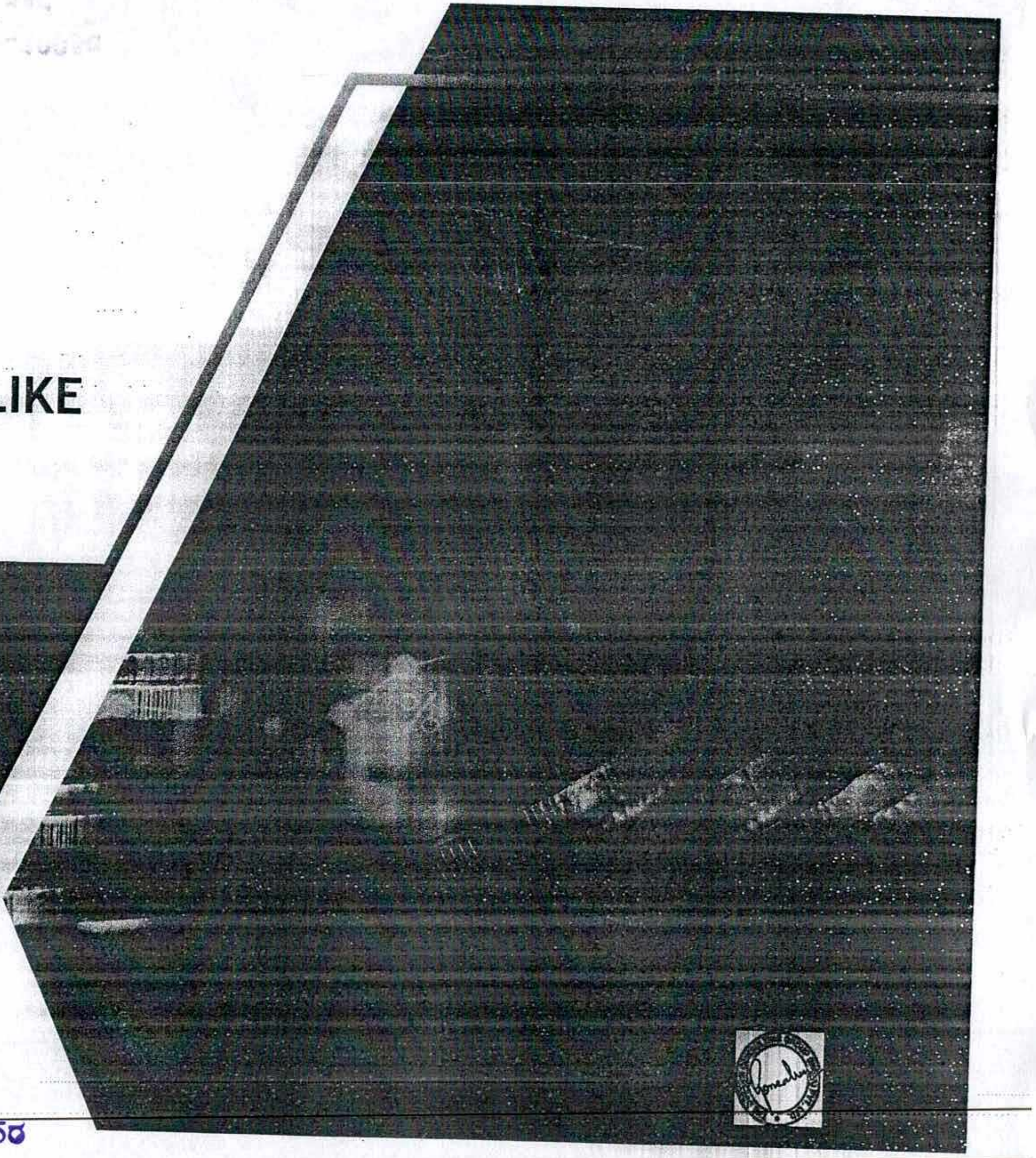
BRUHAT BENGALURU MAHANAGARA PALIKE



BBMP Financial Sustainability Strategy

DELIVERABLE #5 (APPENDIX)

2025

ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು-8
ಬೆಂಗಳೂರು ಸ್ಮಾರ್ಟ್ ಇನ್‌ಫ್ರಾಸ್ಟ್ರಕ್ಚರ್ ಲಿಮಿಟೆಡ್
(B-SMILE), ಬೆಂಗಳೂರು.

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ಅಡಿಯಲ್ಲಿ ನೀಡಲಾದ ಪ್ರತಿ"

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7. BBMP Training Plan 289

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5-Year revenue forecast for BBMP

INR Cr

Revenue head	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	Growth rate
Property Tax Income	2,420	2,771	3,800	4,100	① 4,510	4,961	5,457	6,003	6,603	10%
Premium FAR Fees [As per New Policy]	0	0	0	② 2,000	2,200	2,420	2,662	2,928	3,221	10%
Advertisement Fee [As per New Policy]	0	0	0	③ 750	825	908	998	1,098	1,208	10%
SWM Service charges	0	0	0	750	825	908	998	1,098	1,208	④ 10%
Health Cess 15%	360	425	467	514	607	717	847	1,000	1,182	10%
Building License Fees and other related fees	413	476	644	918	1,010	1,111	1,222	1,344	1,478	10%
Interest	185	219	258	305	359	424	501	591	698	18%
Trade license	56	62	65	68	⑤ 200	210	221	232	243	5%
Solid Waste Management Cess	75	89	98	108	119	131	144	158	174	10%
Rent from BBMP assets	196	26	50	250	275	303	333	366	403	10%
Stamp duty	0	0	68	275	289	303	318	334	351	5%
Other non-tax revenue	667	668	702	737	774	812	853	895	940	5%
Revenue excluding extraordinary and grants	**4,136**	**4,602**	**5,981**	**10,681**	**11,892**	**13,101**	**14,442**	**15,931**	**17,586**	
Extraordinary Receipts	433	462	761	1,005						
Grants	4,603	4,109	4,078	8,779						

Source: Budget books published by BBMP and BCG Analysis

① Increase expected through implementation of CVS methodology for Property tax calculation

② Expected revenue via implementation of Premium FAR policy

③ Expected revenue via implementation of new Advertisement policy

④ Growth rate assumed equal to historic growth rate from FY23 to FY24

⑤ Trade licensing revenue expected to increase through initiatives to improve coverage

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1

Key infrastructure projects planned by BBMP in the next 5 years

INR Cr

Project	Expected expenditure					
	FY26	FY27	FY28	FY29	FY30	FY31
North-South Tunnel	1,416	708	2,124	708		
Elevated corridor	1,833	1,833	1,833	1,833	1,833	1,833
Double decker metro	817	817	817	817	817	817
Sanchara Yuktha	500	500	500	500	500	500
White topping of roads	283	283	283	283	283	283
Road widening	500	500	500	500	500	500
Sky deck	83	83	83	83	83	83
Storm water drain network	333	333	333	333	333	333
East-West Tunnel			2,000	2,000	2,000	2,000
Total	**5,766**	**5,058**	**8,474**	**8,474**	**7,058**	**6,350**

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Source: Public announcements by BBMP

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5-Year expense forecast for BBMP

INR Cr

Expense head	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	Growth rate
New infra projects				① 6,000	5,058	8,474	8,474	7,058	6,350	
Public works capex[1]	3,602	3,391	5,768	5,167	5,839	6,598	7,455	8,424	9,520	② 13%
Public works opex	1,200	1,088	1,310	2,048	2,443	2,914	3,477	4,148	4,948	19%
Solid waste management	③ 1,362	1,555	2,152	2,541	2,658	3,386	3,555	3,733	3,919	23%
General Administration	462	555	779	814	981	1,182	1,425	1,717	2,069	② 21%
Social Welfare	149	435	974	803	843	886	930	976	1,025	5%
Public Health-General	348	232	379	493	553	620	696	781	876	12%
Horticulture	229	153	268	334	379	429	486	550	623	13%
Revenue	121	127	141	147	156	167	178	189	202	7%
Public Education	80	152	215	142	172	208	252	304	368	21%
Public Health-Medical	55	96	94	90	106	125	147	173	203	18%
Urban Forestry	36	45	48	52	58	66	74	83	94	13%
Town Planning and Regulation	6	8	8	14	16	17	19	21	23	10%
Council	3	4	13	13	14	15	15	16	17	5%
Expenses excluding grants and extraordinary	**7,654**	**7,841**	**12,149**	**18,659**	**19,276**	**25,085**	**27,181**	**28,173**	**30,236**	
Grants	1,278	1,330	1,058	1,370						
Extraordinary spends	235	433	527	605						

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[1] Capex spent for regular public works such as construction of roads, drains, etc.

Source: Budget books published by BBMP and BCG Analysis

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① Expected expenses for key projects such as tunnels, double decker metro, flyover network, sky deck, and storm water drain network

② Growth rate assumed on the basis of historic growth rate from FY23 to FY26

③ Includes projected allocation for ISWM tipping fees

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Funding worth ~INR 38,000 Cr needed to bridge revenue-expense gap - to be fulfilled via grants and debt

INR Cr

	FY27	FY28	FY29	FY30	FY31	Total
Revenue excluding extraordinary and grants	11,892	13,101	14,442	15,931	17,586	72,952
Expenses excluding grants and extraordinary	19,276	25,085	27,181	28,173	30,236	129,952
Total funding required over next 5 years	**7,384**	**11,985**	**12,739**	**12,242**	**12,650**	**57,000**

Financing guarantee for INR 19,000 Cr for the tunnel projects already approved

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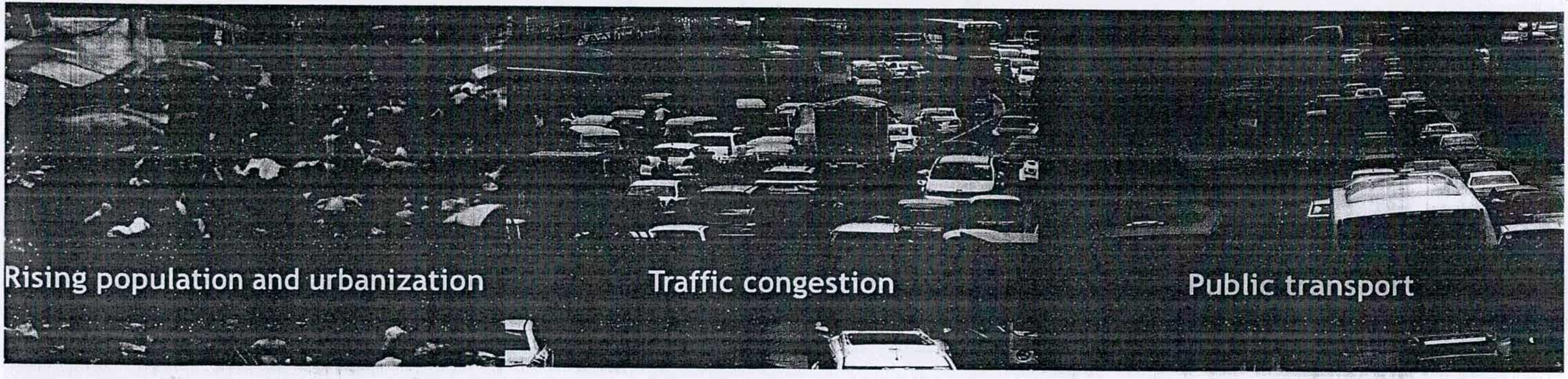
2.1

The city of Bengaluru faces 6 key challenges w.r.t. urban infrastructure (1/2)



Rising population and urbanization

Bengaluru's rapid population growth is putting immense pressure on housing, infrastructure, and essential services, leading to overcrowding and strain on city resources

Traffic congestion

Heavy traffic congestion is a result of insufficient road infrastructure, inadequate public transport, and the city's high reliance on private vehicles

Public transport

The public transport system is inadequate for the growing population, leading to over-dependence on road vehicles, worsening traffic and pollution

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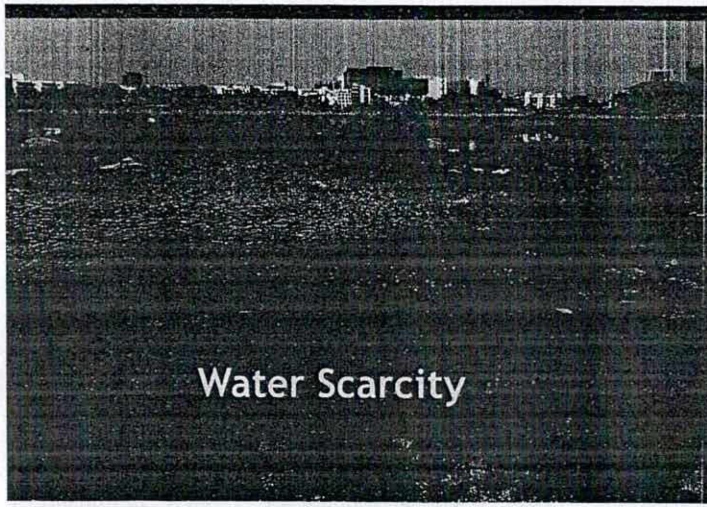
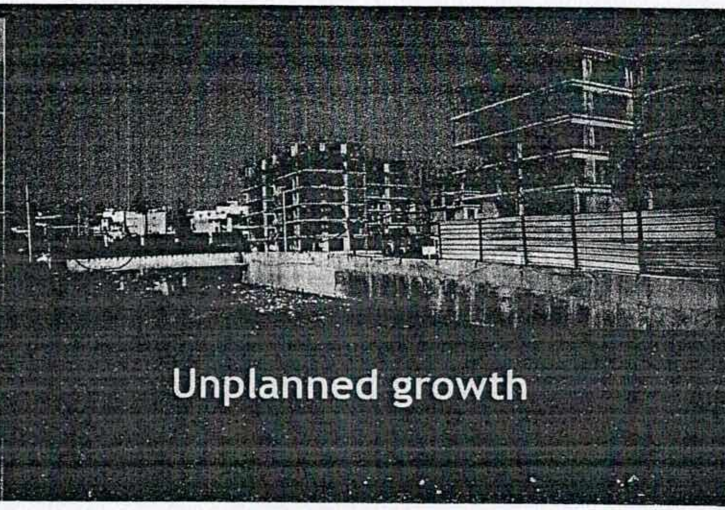
The city of Bengaluru faces 6 key challenges w.r.t. urban infrastructure (2/2)





Waste management

The city faces severe water shortages due to over-dependence on the Cauvery River and rapid groundwater depletion, with demand far exceeding supply

Unregulated construction and encroachment on lakes and drains causing environmental degradation and frequent urban flooding during rains

Ineffective waste management systems, leading to improper waste disposal, insufficient recycling, and overburdened landfills

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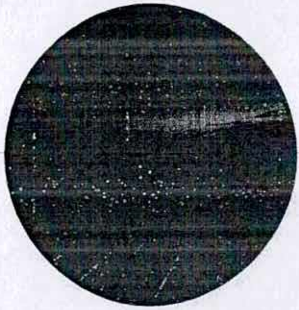
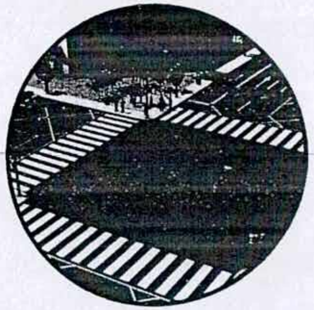
2.1

BBMP has undertaken key infrastructure projects to alleviate traffic, address water scarcity, improve waste management, and enhance urban services (1/2)



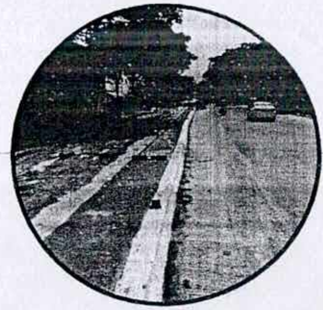
Smart city project

- Projects like LED lighting for landmarks and One City One App enhance urban services
- Aims to reduce the city's carbon footprint and increase citizen access to services
- Pushes Bengaluru towards becoming a tech-driven smart city



Model roads initiative

- BBMP partnered with CSR programs to develop model roads with improved lighting, footpaths, and regular upkeep
- Roads are maintained daily, ensuring high standards compared to typical city roads
- Encourages public-private partnerships for urban infrastructure development



White topping roads

- INR 1,200 crore project covering 63 km of key roads to enhance durability and prevent potholes
- Improves road quality, reduces long-term maintenance costs, and enhances safety for commuters
- Lowers long-term maintenance costs with fewer repairs needed

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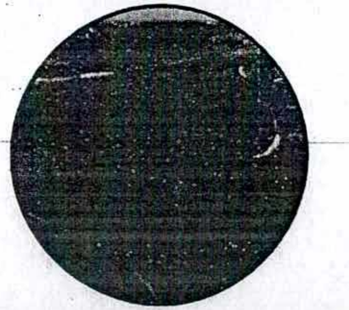
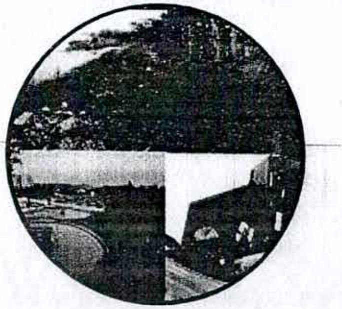
2.1

BBMP has undertaken key infrastructure projects to alleviate traffic, address water scarcity, improve waste management, and enhance urban services (2/2)



Restoration of lakes

- Rejuvenated lakes like Madiwala and Kaikondrahalli improve water quality and biodiversity
- Reduces urban flooding and promotes environmental sustainability
- Offers recreational spaces and hosts community events



Integrated solid waste management

- Established modern waste processing plants for better segregation and recycling
- Reduces landfill usage and promotes a cleaner environment
- Improves public health by addressing improper waste management issues

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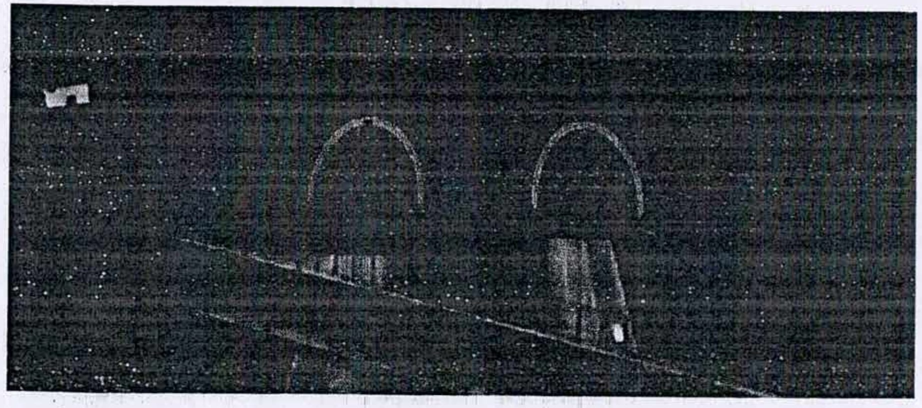
2.1

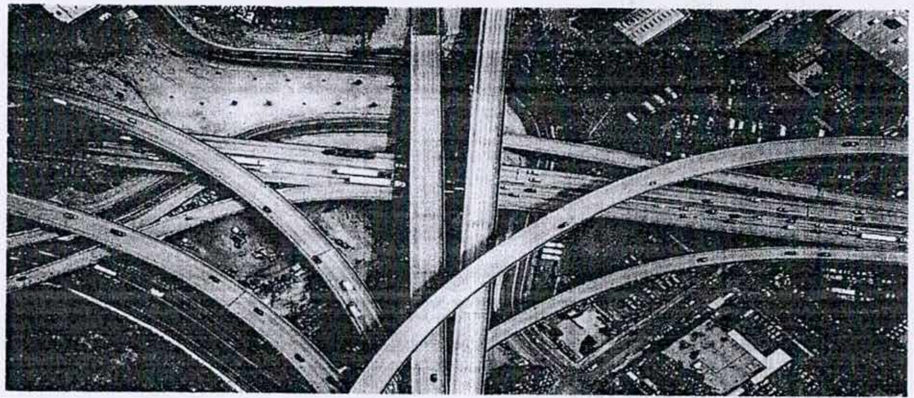
Further, the authority plans to undertake major infrastructure projects worth INR 50,000 Cr+ to address these issues (1/2)

Twin tube tunnel project



- Enable faster connectivity between Hebbal Junction and Silk Board (North-South Tunnel) and KR Puram to Mysuru Road (East-West Tunnel)
- Divert long-distance vehicles and trucks via PRR, reducing traffic inside the city
- Expected to alleviate traffic at 15 key congestion points, including ORR

Elevated corridors



- Reduces congestion by creating elevated roads above busy ground-level routes
- Compensation for affected landowners through cash and TDR (Transferable Development Rights)
- Surrounding areas will include essential social infrastructure, like schools and parks

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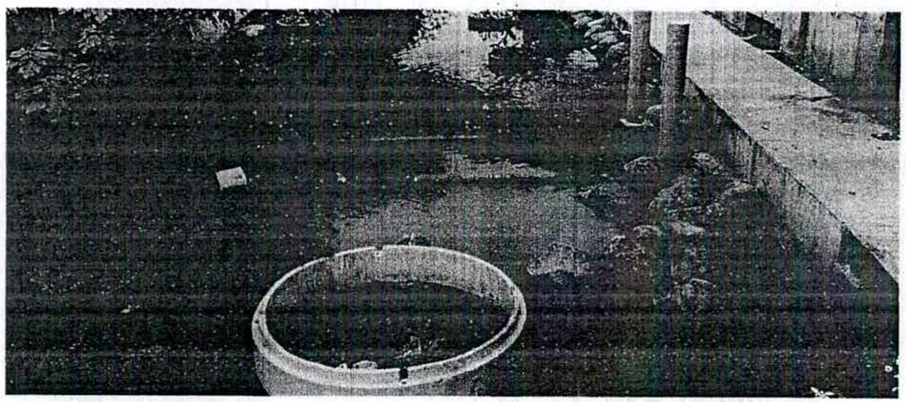
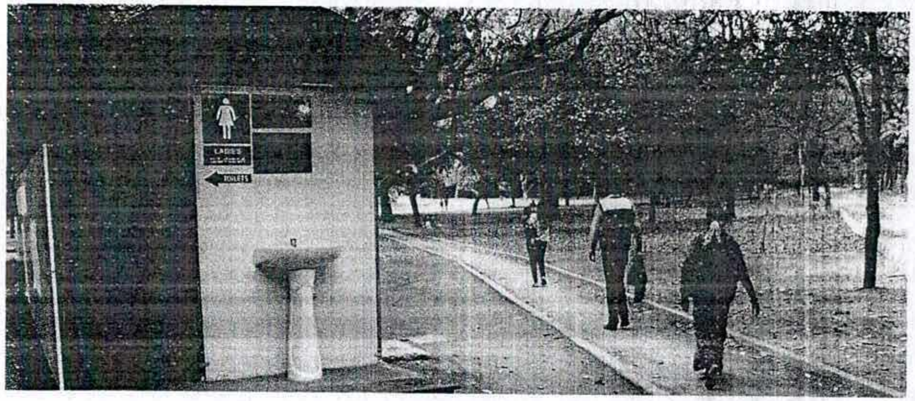
Further, the authority plans to undertake major infrastructure projects worth INR 50,000 Cr+ to address these issues (2/2)

Stormwater drain beautification



- Project will include upgrading and beautifying the existing stormwater drains to reduce flooding and improve water flow during heavy rains
- Adds commercial development opportunities near beautified canals
- Enhances flood management, especially in flood-prone areas

Pedestrian walkways and She toilets



- 100 She toilets will be installed across the city to provide safe and hygienic facilities for women, particularly in high-traffic pedestrian zones
- Generates revenue through VCF, impact fees, and advertising
- This project aims to create world-class pedestrian infrastructure, enhancing the walking experience and safety for citizens

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As BBMP continues to drive sustainable urban development in the Bengaluru city to enhance its livability - it will need to become more financially robust

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Benchmarking of urban Infrastructure Projects in India and abroad

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8 Indian road tunnel projects benchmarked (1/2)

	Project	Timeline	Configuration	Cost[1]	Dev. Mode	Developer	Financing
✓	① **Mumbai Coastal road Phase 1 (BMC)**	6 years (2018-2024)	- 10.58 km road divided in three packages (8 lanes) - 2.07 Km twin tunnel (6 lanes)	INR 9,600 Cr • Cost per Km for tunnel part: INR 400 - 500 Cr/km/tube (3 lanes)	EPC	Pkg. 1, Pkg. 4: L&T Pkg. 2: HCC (55%) - HDC(45%) JV	• No tolling, land reclamation for monetization • Budget allocation from BMC, no external aid
✓	② **Mumbai Coastal road Phase 2 (BMC)**	Tenders awarded, construction yet to start	- 20.4 km road divided into 6 packages (8 lanes) • 2 tunnel packages : Twin tunnel, 3.9 Km each (3 lanes each)	INR 16,600 Cr • Cost per Km for tunnel part: INR 700 - 750 Cr/km/tube (3 lanes)	EPC	Pkg. A: APCO Pkg. B: L&T Pkg. C: MEIL Pkg. D: MEIL Pkg. E:J Kumar, NCC Pkg. F: APCO	• No tolling, land reclamation for monetization • Budget allocations from BMC, no external aids
✓	③ **Thane Borivali Tunnel Project (MMRDA)**	Started in 2024 (Expected 5 -8 years)	- 10.25 km main tunnel with 1.55 km approach roads - Twin tunnel 5.75 km and 6.05 km (3 lanes)	INR 13,000 Cr • Cost per Km for tunnel part: INR 600 - 650 Cr/km/tube (3 lanes)	EPC	Pkg. 1 (Borivali side, 5.75 km): MEIL Pkg. 2 (Thane side, 6.05 km): MEIL	• Toll (INR 200 per veh.) • Govt. interest-free loan: INR 2,417 Cr + add. 700 Cr for land acquisition • Additional approval for MDB loans for 15,000 Cr
	④ **Atal Tunnel (Rohtang Pass) (BRO)**	10 years (2010 - 2020)	9.02 km Single tube (2 lane tunnel)	INR 3,300 Cr • Cost per Km for tunnel part: INR 350 - 400 Cr/km/tube	EPC	JV b/w AFCONS (60%) & STRABAG AG (40%)	• No tolling • Fully financed by the Govt. of India, with no private financing

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1. Cost estimated at RFP stage

Source: Expert interviews

✓ *Detailed further on the following pages*

8 Indian road tunnel projects benchmarked (2/2)

Project	Timeline	Configuration	Cost[1]	Dev. Mode	Developer	Financing
⑤ Chenani - Nashri Tunnel (NHAI)	6 Years (2011 - 2017)	9.2 km connecting Chenani & Nashri NH 44 (Jammu-Srinagar Highway) twin tunnel, 4 lanes	INR 3,720 Cr • Cost per Km for tunnel part: INR 350 - 450 Cr/km/tube (2 lanes)	BOT (Annuity), with 20% VGF	IL&FS Transportation Networks Ltd Concession period: 20 years	• Rev. from tolls • Annuity payments by NHAI for 20 years
⑥ Shimla Bypass (J&K) (NHAI)	3 years (2023 - 2026 expected)	17.47 km, including 3 twin tunnels spanning 4.35 km	INR 1,845 Cr	HAM • 75% NHAI • 25% SPSCPL	S P Singla Constructions Pvt Ltd (SPSCPL) Concession period: 15 years	• Rev. from tolls • Annuity payments by NHAI for 15 years
⑦ Zoji La tunnel (NHIDCL)	7 years (2020 - 2027 expected)	14.15 km, single tube tunnel with 2 lanes between Sonmarg and Drass	INR 8,308 Cr	EPC **Tried HAM but failed*	Megha Engg. - EPC (2020) **NHIDCL tried HAM IN 2018 but No bidders*	• No tolling • Funded by National Highways & Infra. Dev. Corp. Ltd. (NHIDCL)
⑧ Kolkata East - West Metro Tunnel (KMRCL)	15 years (2009 - 2024)	10.8 km (including 520 meters under the Hooghly River) Package 1 (5.15 km) + Package 2 (4.02 km)	Final total cost: INR 10,442 Cr (incl. Cost overrun)	EPC	- Package UG-1: Afcons-Transtonnelstroy JV - Package UG-2: (Italian-Thai Development)-ITD Cementation JV	• Ticketing Revenue • JICA loan of INR 4,158 Cr • Min. of Railways: INR 3,268 Cr grant • MoHUA INR 1,148 Cr grant

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1. Cost estimated at RFP stage

Source: Expert interviews

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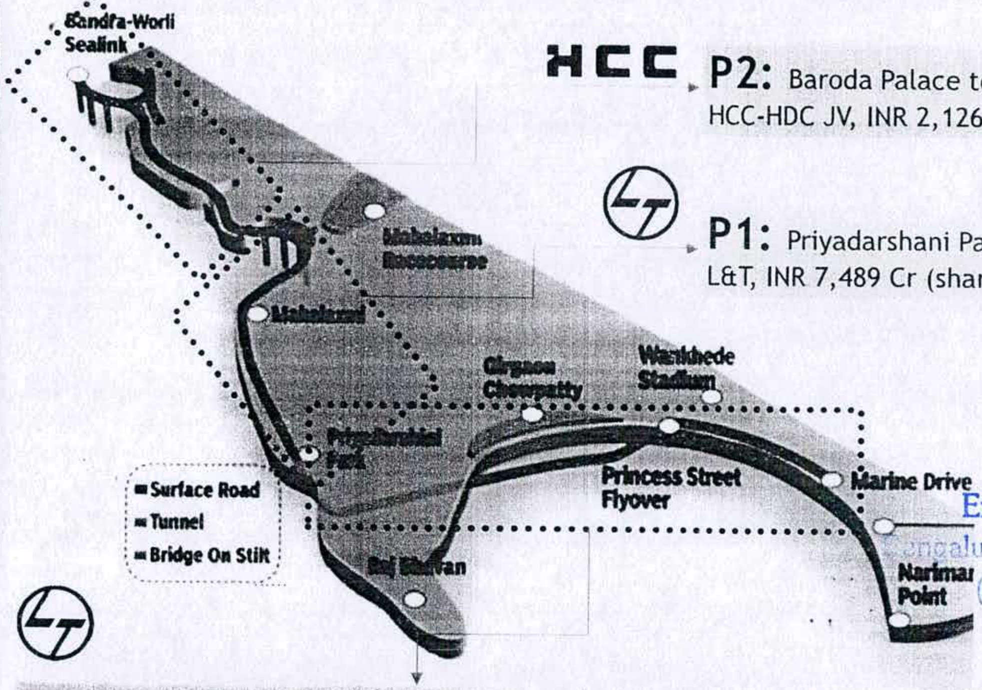
Mumbai Coastal Road Phase 1 developed in EPC mode by BMC

Mumbai Coastal Road Phase 1 (10.58 km):


Bandra-Worli Sealink
Mahalaxmi Racecourse
Mahalaxmi
Girgaon Chowpatty
Wankhede Stadium
Priyadarshini Park
Princess Street Flyover
Marine Drive
Raj Bhavan
Nariman Point
Surface Road
Tunnel
Bridge On Stilt

P2: Baroda Palace to Worli BWSL (2.23 km), HCC-HDC JV, INR 2,126 Cr, 8 lanes

P1: Priyadarshani Park to Baroda Palace (3.82 km), L&T, INR 7,489 Cr (shared with P4), 8 lanes

P4: Princess St. Flyover to Priyadarshani Park (3.93 km), incl. 2.07 km tunnels, L&T, INR 7,489 Cr (shared with P1), 6 lanes

Key Highlights

Cost	Total Cost: - INR 9600 Cr Cost per Km of tunnel: -INR 400-500 Cr/km/tube
Duration	6 years (2018-2024)
Revenue	No Tolling, 90 hectares land reclamation (70 hectares for public use, 20 hectares for monetization) - Phase 1 and Phase 2 combines
Financing	Budget allocations from BMC, no external aids
Issues faced	• Legal disputes over environmental concerns • Utility shifting delays (1 year) • Inaccurate geological surveys • Delay due to COVID-19 (7-8 months)

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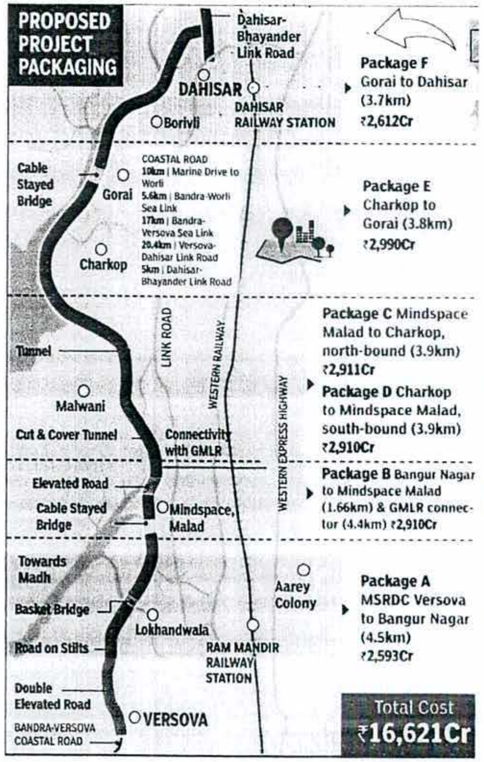
Mumbai Coastal Road Phase 2 developed in EPC mode by BMC

Mumbai Coastal Road Phase 2 (20.4 km):


PROPOSED PROJECT PACKAGING
Dahisar-Bhayander Link Road
DAHISAR
DAHISAR RAILWAY STATION
Borivli
Package F
Gorai to Dahisar (3.7km)
₹2,612Cr
Cable Stayed Bridge
Gorai
COASTAL ROAD
10km | Marine Drive to Worli
5.6km | Bandra-Worli Sea Link
17km | Bandra-Versova Sea Link
20.4km | Versova-Dahisar Link Road
5km | Dahisar-Bhayander Link Road
Charkop
Package E
Charkop to Gorai (3.8km)
₹2,990Cr
LINK ROAD
WESTERN RAILWAY
WESTERN EXPRESS HIGHWAY
Tunnel
Malwani
Cut & Cover Tunnel
Connectivity with GMLR
Package C Mindspace Malad to Charkop, north-bound (3.9km)
₹2,911Cr
Package D Charkop to Mindspace Malad, south-bound (3.9km)
₹2,910Cr
Elevated Road
Cable Stayed Bridge
Mindspace, Malad
Package B Bangur Nagar to Mindspace Malad (1.66km) & GMLR connector (4.4km) ₹2,910Cr
Towards Madh
Basket Bridge
Road on Stilts
Lokhandwala
Aarey Colony
RAM MANDIR RAILWAY STATION
Package A
MSRDC Versova to Bangur Nagar (4.5km)
₹2,593Cr
Double Elevated Road
VERSOVA
BANDRA-VERSOVA COASTAL ROAD
Total Cost
₹16,621Cr

F: Gorai to Dahisar (3.69 km), APCO Infratech, INR 2,612 Cr, 6 lanes

E: Charkop to Gorai (3.78 km), Larsen & Toubro (L&T), INR 2,990 Cr, 6 lanes

D: Charkop to Mindspace (north-bound, 3.9 km), Megha Engineering, INR 2,911 Cr, 6 lanes

C: Mindspace to Charkop (3.9 km), Megha Engineering, INR 2,911 Cr, 6 lanes

B: Bangur Nagar to Mindspace (4.4 km), J Kumar InfraProjects & NCC, INR 2,910 Cr, 6 lanes

A: Versova to Bangur Nagar (4.5 km), APCO Infratech, INR 2,593 Cr, 6 lanes

Key Highlights

Cost	Total Cost: - INR 16,600 Cr Cost per Km of tunnel: -INR 700 - 750 Cr/km/tube
Duration	Yet to start, Expected 5 - 8 years
Revenue	No Tolling, 90 hectares land reclamation (70 hectares for public use, 20 hectares for monetization) - Phase 1 and Phase 2 combines
Financing	Budget allocations from BMC, no external aids
Issues faced	Legal disputes over environmental concerns (still in progress)

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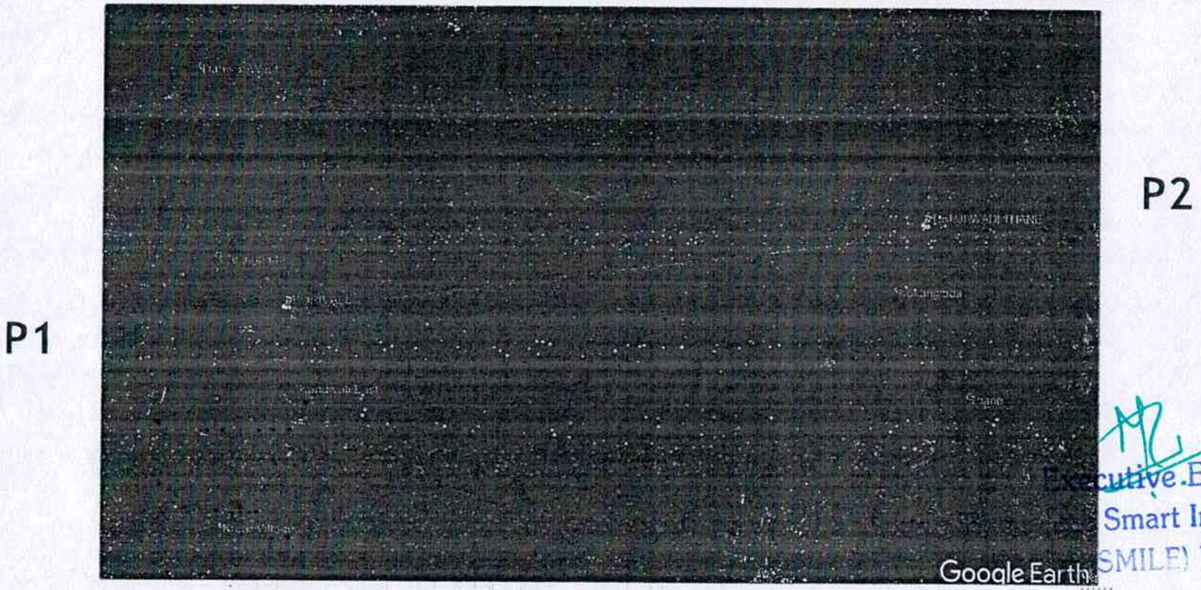
Thane Borivali tunnel project developed in EPC mode by MMRDA

Thane Borivali tunnel (11.8 Km) in 2 Packages



Thane Borivali (10.25 Km main tunnel with 1.55 Km approach roads):

meil Package 1 (Borivali side): 5.75 km, awarded to Megha Engineering & Infrastructures Ltd. (MEIL), with a project cost of INR 7,178 Cr

meil Package 2 (Thane side): 6.05 km, also undertaken by MEIL, at a cost of INR 5,879 Cr

Key Highlights

Cost	Total Cost: ~ INR 13,000 Cr Cost per Km of tunnel: ~INR 600 - 650 Cr/km/tube
Duration	Expected 5-8 years (2023-2028)
Revenue	Toll collection (INR 200 per vehicle), Four TBMs used, material repurposed for land reclamation or other construction uses
Financing	MMRDA approved loans of INR 15,000 Cr from Multilateral and Bilateral Development Banks Maharashtra Government interest-free loan of INR 2,417 Cr, with INR 700 Cr for land acquisition
Issues faced	Approvals from the National Board for Wildlife (NBWL) & Forest Department due to tunneling under Sanjay Gandhi National Park

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Global benchmarks indicate a higher uptake of BOT/PPP with consortium of multiple players taking up different functional roles

Project	Details	Cost	Dev. Mode	Developer	Financing
① Channel Tunnel Project (Chunnel) - UK and France	50.5 km rail tunnel connecting Folkestone (England) & Coquelles (France). Three parallel tunnels: two for passenger & freight trains, & one service tunnel	GBP 4.8 billion (final cost escalated to GBP 9.5 billion)	DBFMOT (Design, Build, Finance, Maintain, Operate, Transfer) under PPP, with a 99-year concession (extended from the original 55 years).	Package 1: Tunnel boring, TransManche Link: Bouygues, Dumez, Costain, Taylor Woodrow, SGE, Balfour Beatty (French-UK consortium) Package 2: Shuttle Train Systems and Infrastructure	• GBP 8 billion raised from a syndicate of 5 banks: HSBC, BNP Paribas, Crédit Agricole, Banque Indosuez, RBS
② Laerdal Tunnel (Norway)	24.5 km (single tube, double lane), connecting Aurland and laerdal in Norway.	NOK 1.08 billion (~ USD 113 million)	EPC, with the Norwegian Public Roads Administration (NPRA)	Key Contractor: Interconsult for electrification & safety systems. Local Contractors: tunneling, blasting, & construction work.	• No tolling, land reclamation for monetization • Budget allocations from NPRA, no external aids
③ Hong Kong-Zhuhai-Macau Bridge (HZMB)	55 km, consisting of 29.6 km of bridges and a 6.7 km immersed undersea tunnel (single tube, dual lane)	USD 18.8 billion (USD 7.6 Billion for tunnel)	BOT, with 50 years concession period	Tunnel Package: JV of China Communications Construction Company Ltd. (CCCC), AECOM Asia, & Shanghai Tunnel Engineering & Rail Transit Main Bridge Package: COWI A/S and Ove Arup & Partners.	• Government Funding: 42% • Private Loans: 58%, with loans led by the Bank of China • Toll collection, revenue from artificial islands
④ Fehmarnbelt Tunnel (Denmark & Germany)	8 km immersed tunnel- Rødbyhavn (Denmark to Puttgarden (Germany)	EUR 7.1 billion (~ USD 8.2 billion)	EPC	Femern A/S, a subsidiary of the Danish state-owned company. Key contractors: Vinci Construction Grands Projets, BAM Infra, PER Aarsleff, and Max Bögl	• State guaranteed loans • EUR 1.1 billion in grants through the Connecting Europe Facility (EU) • Tolling by Femern A/S

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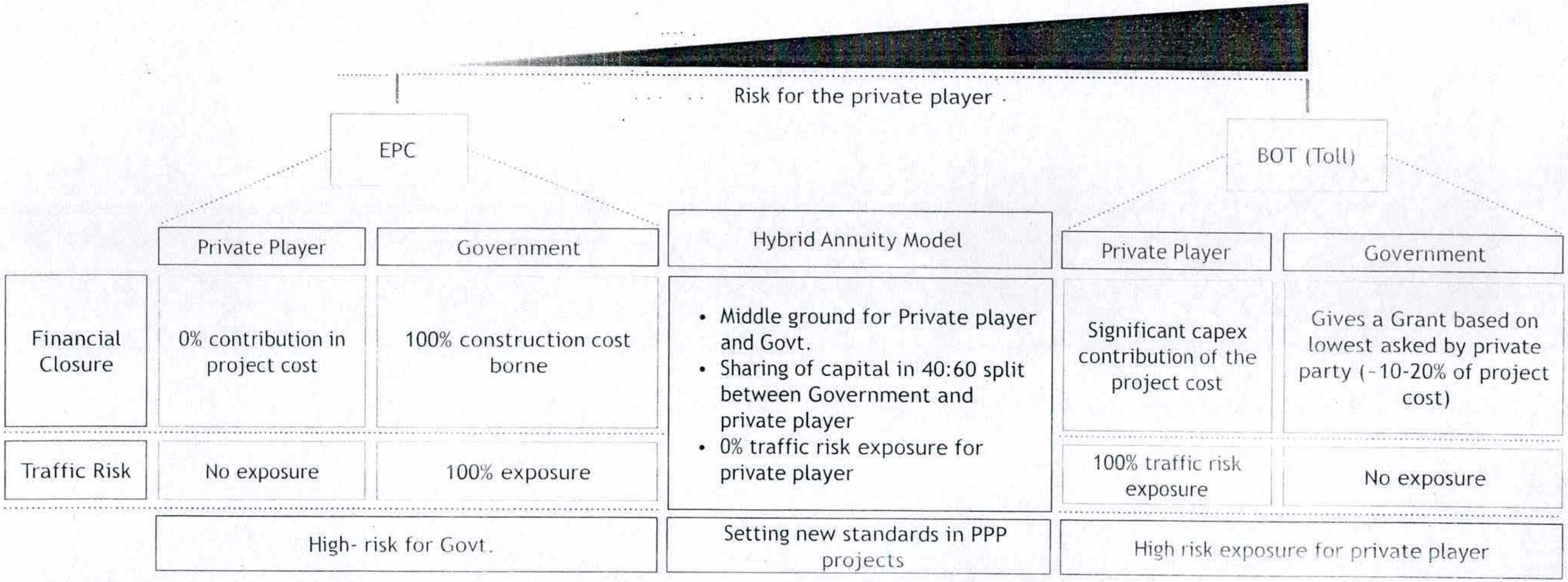
Potential project development models

Various development models need to be evaluated and bundled to redistribute risks appropriately (1/2)



Risk for the private player

	EPC Private Player	EPC Government	Hybrid Annuity Model	BOT (Toll) Private Player	BOT (Toll) Government
Financial Closure	0% contribution in project cost	100% construction cost borne	• Middle ground for Private player and Govt. • Sharing of capital in 40:60 split between Government and private player • 0% traffic risk exposure for private player	Significant capex contribution of the project cost	Gives a Grant based on lowest asked by private party (~10-20% of project cost)
Traffic Risk	No exposure	100% exposure		100% traffic risk exposure	No exposure
	High- risk for Govt.		Setting new standards in PPP projects	High risk exposure for private player	

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Various development models need to be evaluated and bundled to redistribute risks appropriately (2/2)

Non exhaustive

Project Risk/Contract Model	EPC	HAM	DBOT - T
Design	P	P	P
Construction	P	P	P
Operations	G	P	P
Revenue Forecast	G	G	P
Revenue Collection	G	G	P
Finance	G	G+P	P
Risks assumed by the private player	Low	High	Medium
	Construction + design + item rate contracts risks	Govt. infuses part funding during constructions, ensures indexation of costs & O&M payments	All risks

G Government P Private G+P Government + Private

EPC = Engineering, Procurement & Construction; DBO = Design-Build-Operate; DBOT = DBO-Transfer; T = Toll

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Development Models

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Preference		
High	Medium	Low

While BOT is favorable for the Authority, and EPC is preferred by the Developers – HAM emerges as the middle ground

Authority PoV	EPC	HAM	BOT
Extent of competition	Highest no. of bids expected	Sizeable no. of bids expected	Very few bids expected
Govt. financial outlay	Entirely funded by Government	About 40% upfront from Govt., 60% from toll revenues	Only VGF funding
Revenue risk for the Govt.	High	High	Low - Risk passed to Developer
Construction risk	Low	Low	Medium, risk of insufficient funds
Quality of construction	Payments not linked to performance	Potential to withhold annuity	Performance affects traffic and tolls
Risk of toll leakages (loss of value extraction)	Typically collected by Govt. or separate contractor	Typically collected by Govt. or separate contractor	Toll collection by Private player

Authority preference

HAM: Middle ground

Developer PoV	EPC	HAM	BOT
Developer investment required	Minimal, full investment done by Govt.	60% project cost to be invested, later recouped via Annuity	Majority project cost to be invested by Developer, with some VGF from Govt.
Revenue risk for Developer	Zero	Limited	Full traffic risk borne by the Developer
Payment risk for concessionaire	Risk of delayed payments by Govt.	Risk of delayed payments by Govt.	Limited dependence on govt. payments - mainly for collecting toll revenue
Returns	Fixed returns, low risk	Fixed returns, but over a longer time period	Variable returns

Developer preference

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Novel Development Model: Modified BOT

Modified-BOT (Toll) Model

Modified-BOT model to manage traffic & revenue risk

1. The bidders quote TCV (Total Concession Value), equivalent to the toll revenue they seek to recover the costs associated with the project *(excluding ancillary revenues)*

2. The Concession Period goes on till the discounted value of tolls collected by developer is equal to the TCV, reviewed annually *(frequency changed to monthly after 90% TCV achieved)*

3. Revenues are discounted at Authority set discounting rate, to get real values as of Appointed Date *(Discounting rate: SBI 3-year MCLR + 2.5%, as per IRC 136-2023, MoRTH)*

4. Authority provides fixed Viability Gap Funding at **40% of the Estimated Project Cost**

5. Concession period can be **extended by up to 10 years** and terminated as soon as bid TCV is realized, i.e., no minimum concession period

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Modified-BOT Illustration | Extension of Concession due to lower traffic

Example 1: Bid TCV = INR 5,000 Cr, planned concession = 6+5 years

Year	Actual toll revenue	3y MCLR in the year	NPV(tolls collected)	Cumulative NPV(tolls)	Cumulative TCV %	Verdict
2025	*Construction period*	9.00%	0	0	0%	*Construction period*
2026		9.00%	0	0	0%	
2027		9.10%	0	0	0%	
2028		9.20%	0	0	0%	
2029		9.05%	0	0	0%	
2030		9.10%	0	0	0%	
2031	1,500 Cr	9.00%	781 Cr	781 Cr	16%	Continue
2032	1,800 Cr	9.10%	835 Cr	1,616 Cr	32%	Continue
2033	2,000 Cr	9.20%	825 Cr	2,441 Cr	49%	Continue
2034	2,200 Cr	9.30%	806 Cr	3,247 Cr	65%	Continue
2035	2,400 Cr	9.25%	790 Cr	4,037 Cr	81%	Continue
2036	2,600 Cr	9.15%	774 Cr	4,811 Cr	96%	Continue
Jan'37	350 Cr	9.10%	94 Cr	4,905 Cr	98%	Continue
Feb'37	400 Cr	9.10%	107 Cr	5,012 Cr	100%	Terminate

Concession period extension will be capped at a maximum of 10 years, beyond which even if NPV(Toll revenues) is not equal to TCV, the concession period will be terminated.

Here, Concession is increased to ensure recovery of bid TCV

How to calculate

NPV (tolls collected)

$$= \frac{Actual\ toll}{(1+discounting\ rate)^{(Year-2025)}}$$

Discounting rate

= SBI's 3year MCLR that year + 2.5% (as per MoRTH)

Cumulative TCV

= Cumulative TCV in previous year + NPV(tolls collected in that year)

Verdict

= if Cumulative TCV% in that year < 100% → Continue, else Terminate
OR, if concession period = planned concession +10 years → Terminate

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Modified-BOT Illustration | Curtailment of Concession due to high traffic

Example 2: Bid TCV = INR 5,000 Cr, planned concession = 6+5 years

Year	Actual toll revenue	3y MCLR in the year	NPV(tolls collected)	Cumulative NPV(tolls)	Cumulative NPV%	Verdict
2025	*Construction period*	9.00%	0	0	0%	*Construction period*
2026		9.00%	0	0	0%	
2027		9.10%	0	0	0%	
2028		9.20%	0	0	0%	
2029		9.05%	0	0	0%	
2030		9.10%	0	0	0%	
2031	2,500 Cr	9.00%	1,301 Cr	1,301 Cr	26%	Continue
2032	2,800 Cr	9.10%	1,299 Cr	2,600 Cr	52%	Continue
2033	3,000 Cr	9.20%	1,238 Cr	3,838 Cr	77%	Continue
2034	3,200 Cr	9.30%	1,173 Cr	5,011 Cr	100%	Terminate
2035						
2036						
2037						

Here, Concession has been decreased as bid TCV has been recovered

How to calculate

NPV (tolls collected)

$$= \frac{Actual\ toll}{(1+discounting\ rate)^{(Year-2025)}}$$

Discounting rate

= SBI's 3year MCLR that year + 2.5% (as per MoRTH)

Cumulative TCV

= Cumulative TCV in previous year + NPV(tolls collected in that year)

Verdict

= if Cumulative TCV% in that year < 100% → Continue, else Terminate
OR, if concession period = planned concession +10 years → Terminate

Concession period extension will be capped at a maximum of 10 years, beyond which even if NPV(Toll revenues) is not equal to TCV, the concession period will be terminated.

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Recap | Key Project Structuring Features

1. **Project packaging:** 2 packages – North (Hebbal to Seshadri Road) and South (Seshadri road to Silk Board)
2. **Development model:** Modified-BOT Toll with 40% VGF[1] and 4+30 years as Estimated concession Period[2]
3. **Viability Gap Funding:** Authority will give construction at 40% Estimated Project Cost
4. **Revenue risk mitigation:** Adjustable concession period to mitigate traffic and revenue risk
5. **Ancillary revenues:** Under scope of developer, like bus-bay tolling, intermodal hubs (parking, rental spaces), naming rights and utilities
6. **Governance & tolling:** Separate Govt.-owned SPV to manage project with 2 privately held developer SPVs; tolling to be done by each developer for respective package

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1. 40% of Total Project Cost
2. Concession Period may be extended by a maximum of 10 years. There is no minimum concession period.

Improvised Variable BOT

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V-BOT Cashflows |

Only grant required from Authority, minimum 30 years needed to meet attractive IRR

Improvised V-BOT Cashflows (INR Cr)

Years	Toll Revenues	O&M Expenses	PBDIT	Depreciation	Interest on Debt	Tax	PAT	VGF from Authority	Capex	Project cash flows	Cash flow to equity
FY26	0	0	0	0	0	0	0	708	1647	-843	-282
FY27	0	0	0	0	0	0	0	2039	3702	-1522	-499
FY28	0	0	0	0	0	0	0	1501	4069	-2253	-770
FY29	0	0	0	0	0	0	0	1811	4460	-2124	-795
FY30	316	23	293	61	0	24	208	1021	3820	-1982	-577
FY31	1361	97	1264	248	854	0	162			1264	98
FY32	1460	102	1358	248	796	0	314			1358	-36
FY33	1553	107	1446	248	730	0	469			1446	117
FY34	1658	112	1545	248	663	24	611			1515	258
FY35	1767	118	1650	248	597	86	719			1557	367
FY36	1889	124	1765	248	531	148	839			1609	484
FY37	2013	130	1883	248	464	210	961			1665	606
FY38	2117	136	1981	248	398	265	1070			1708	715
FY39	2223	143	2080	248	332	319	1182			1753	824
FY40	2335	150	2184	248	265	373	1298			1803	940
FY41	2456	158	2298	248	199	428	1423			1861	1065
FY42	2590	166	2424	248	133	485	1559			1930	1198
FY43	2724	174	2550	248	66	542	1694			1999	1333
FY44	2863	183	2681	248	8	596	1828			2075	1753
FY45	3015	192	2823	248	0	640	1935			2172	2142
FY46	3175	202	2973	248	0	684	2042			2279	2249
FY47	3322	212	3110	248	0	724	2139			2376	2345
FY48	3471	222	3249	248	0	763	2238			2475	2442
FY49	3619	233	3386	248	0	802	2337			2573	2540
FY50	3779	245	3534	248	0	843	2444			2680	2646
FY51	3968	257	3711	248	0	890	2573			2809	2772
FY52	4145	270	3875	248	0	934	2693			2929	2892
FY53	4322	284	4038	248	0	978	2812			3048	3011
FY54	4519	298	4221	248	0	1026	2948			3182	3142
FY55	4718	313	4405	248	0	1074	3083			3317	3277
FY56	4917	328	4589	248	0	1122	3218			3453	3412
FY57	5139	345	4794	248	0	1175	3372			3605	3560
FY58	5364	362	5002	248	0	1229	3526			3759	3714
FY59	5592	380	5212	248	0	1283	3681			3914	3869
FY60	4413	301	4112	187	0	1013	2912			3086	3050
						Developer IRR (30 yrs)				15%	17%

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4.5 Novel Development Model: Ballooning Hybrid Annuity Model

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HAM (Hybrid Annuity Model) is a well-established development model for greenfield assets

Non exhaustive

Financial Outlay Required by Government

- Government funds 40% of project cost as a construction grant, rest financed by the developer, sharing the financial burden and incentivizing private investment

Revenue Risk for Government

- Government retains toll revenue control, assuming revenue risk while providing developers with fixed annuity payments, ensuring predictable cash flow for developers

Construction Risk for Government

- Low construction risk for Government as developers handle 60% of funding and execution; phased construction grant reduces immediate financial exposure

Incentive for Quality of Construction

- Performance-based annuity payments tied to quality encourage high construction standards and lower long-term maintenance costs

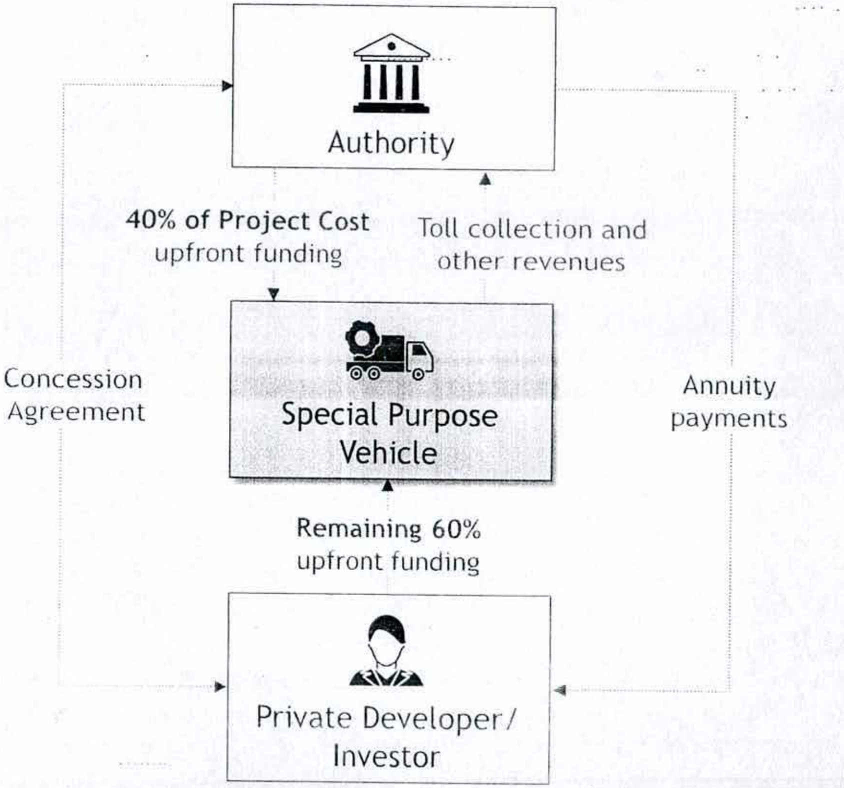
Risk of Toll Leakages

- Toll collection remains under government control, minimizing leakage risk and allowing government to optimize revenue extraction

Flexibility in Policy Adjustments

- Moderate flexibility with inflation-indexed annuity payments and a fixed 15-year operations period for operational stability and adaptability within set terms

Hybrid Annuity Model



Authority

40% of Project Cost upfront funding

Toll collection and other revenues

Concession Agreement

Special Purpose Vehicle

Annuity payments

Remaining 60% upfront funding

Private Developer / Investor

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Ballooning Hybrid Annuity Model

Proposed HAM model with ballooning annuity payments helps manage the upfront payment burden for the Authority

1. Cashflows table for 4+20 years. INR 7,000 VGF at bid project cost of 17.650 Cr and completion cost of INR 20k to ensure equity IRR of 15%
2. Total Revenues includes toll revenues and expected ancillary revenues
3. Annuity payments made as per Ballooning HAM model
4. Loan repayment period of 16 years considered

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Internal Bid project cost estimate
INR 17.7k Crores

VGF Fixed at ~**INR 7,000 Cr**
TPC in HAM ~**INR 14,896 Cr**

4 + 20 years
50 mos Construction +
20yr Annuity repayment period

Ballooning annuity payment
starting at INR 1,387 Cr (Annuity + Interest) in 1st year, increasing every year in line with toll revenue

Equity IRR of 15%
Assuming bid project cost around **INR 17.7k Crores and Cost of Completion of INR 20k**

Bid Parameter:
Project Cost

The model ensures **positive cashflows for the Authority from the early years** of operation.

Illustration: In FY 2036, the projected toll revenue of INR 1,889 Crores is expected to cover the annuity outflow of INR 1,625 Crores, as well as O&M payments of INR 124 Crores. The payments to developer are such that they shall be enough to meet the debt obligations of the concessionaire.[4]

Authority cashflows under Ballooning HAM (INR Cr)[1]

Years	*Authority Inflows*	*Authority Outflows*			Net Authority Cashflows
	Total Revenues[2]	O&M Payments	Annuity+ Interest[3]	Grant	
FY26	0	0	0	1416	-1416
FY27	0	0	0	708	-708
FY28	0	0	0	2124	-2124
FY29	0	0	0	2124	-2124
FY30	316	23	0	708	-415
FY31	1361	97	1387		-124
FY32	1460	102	1409		-51
FY33	1553	107	1448		-2
FY34	1658	112	1501		44
FY35	1767	118	1547		102
FY36	1889	124	1625		140
FY37	2013	130	1730		152
FY38	2117	136	1833		148
FY39	2223	143	1853		227
FY40	2335	150	1819		365
FY41	2456	158	1767		532
FY42	2590	166	1713		711
FY43	2724	174	1657		893
FY44	2863	183	1601		1080
FY45	3015	192	1540		1283
FY46	3175	202	1479		1494
FY47	3322	212	1415		1695
FY48	3471	222	1348		1901
FY49	3619	233	1278		2108
FY50	3779	245	1180		2354
FY51	3968	257			3711
FY52	4145	270			3875
FY53	4322	284			4038
FY54	4519	298			4221
FY55	4718	313			4405
FY56	4917	328			4589
FY57	5139	345			4794
FY58	5364	362			5002
FY59	5592	380			5212
FY60	4413	301			4112

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Ancillary Revenues

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2.1

In addition to toll revenues, the project can generate ancillary revenues: Add. 10-15% of toll revenues can be unlocked every year across 4 key categories

	Levers	*Annual Value Potential*	Description
1 a	Retail spaces in Intermodal nodes	INR 70 - 80 Crores	The rental revenue for two planned retail floors, covering a 100 m x 50 m area with a 70% rental coverage, has been calculated based on market rental values and BBMP zonal classifications (across 5 nodes)
1 b	Parking in Intermodal nodes	INR 20 - 25 Crores	Parking revenue has been estimated for two planned parking floors, each with two levels, accommodating 100 cars per level, a 60% occupancy rate, and a parking charge of INR 25 per hour (across 5 nodes)
1 c	Naming rights and branding	INR 30 - 40 Crores	Drawing on historical agreements for metro stations like Konappana Agrahara (Infosys), Hebbagodi (Biocon), Bommasandra (Delta), and Lakkasandra (Bosch), anticipated revenue of approx. INR 2 Crores/station
2	Bus bays tolling	INR 130 - 150 Crores	Estimated revenue is based on a toll rate of 3.4 times the car PCU toll rate (INR 1100 for full length - MoRTH) with an expected 3% composition of buses in total traffic, according to traffic volume data -Rodic.
3	Utility Renting (Telecom and OFC)	INR 15 - 20 Crores	Projected revenue from leasing tunnel space for 50 optical fiber pairs (vs. 20 in metro tunnels) as tunnels has more than 5x the utility space, at INR 5000 per km/pair/month (BMRCL rate) for telecom companies
		INR 250 - 300 Crores	

1. Note: Inflation of 5-6% to be assumed to increase the revenue potential YoY

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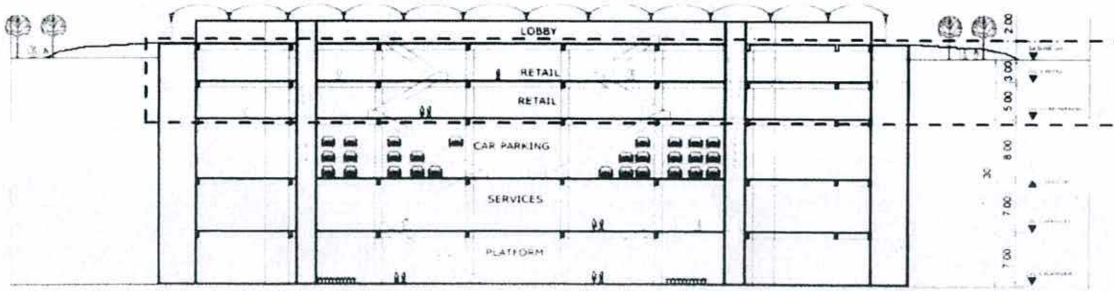
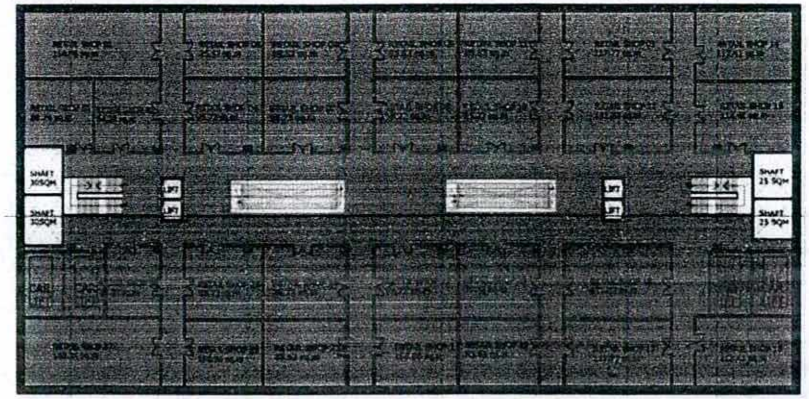
Intermodal Hubs – Context: 5 Intermodal Hubs planned across the tunnel at the vertical shaft points – total area of 2.6L sq.ft. across the 5 Hubs

Five floors are planned within the intermodal nodes

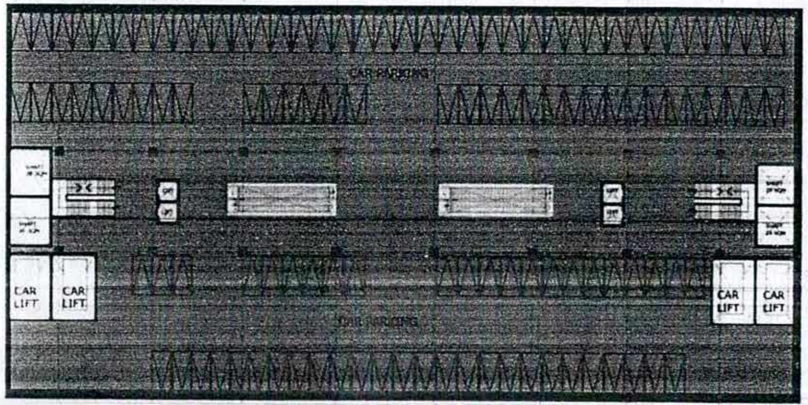

LOBBY
RETAIL
RETAIL
CAR PARKING
SERVICES
PLATFORM
2.00
3.00
5.00
8.00
7.00
7.00

2 floors for Retail

Retail Floors tentative Layout


SHAFT
LIFT
LIFT

Parking Floors tentative Layout


CAR PARKING
CAR LIFT
CAR LIFT
CAR LIFT
CAR LIFT
CAR PARKING

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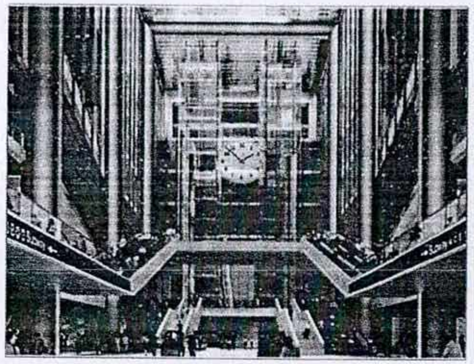
Intermodal Hubs – Retail Rentals | 2 floors can be rented out for retail spaces

Benchmarks	Description
Port Authority, New York	- Leased retail spaces at bridge and tunnel plazas to generate revenue from various food, beverage, and retail outlets, including Brooklyn National Deli, Carlo's Bakery, Duane Reade/Walgreens, Dunkin' Donuts, Hudson, Jamba Juice, Land of Beer, Starbucks, Villa Italian Kitchen, Zaro's Family Bakery, and others. Rentals : Total $42M in 2023
The New York State Thruway Authority	- The service plazas include outdoor dining areas, Taste NY (Governor Cuomo's initiative to showcase New York products), and a farmer's market. - Some service areas provide electric vehicle charging stations.



S No.	Place of Intermodal change	Area (sqft)	Area (Acres)	Categor-ization	Rental rate per sqft
1	Hebbal Junction	53,370	1.23	B	INR 70
2	Palace Ground /Mekhri Circle	53,370	1.23	B	INR 70
3	Race - course	53,370	1.23	A	INR 100
4	Lalbagh	53,370	1.23	B	INR 70
5	Silk Board	53,370	1.23	C	INR 50
		2,66,850	6.13		

The rental revenue for two planned retail floors, covering a 100 m x 50 m area with a 70% rental coverage, has been calculated based on market rental values and BBMP zonal classifications (across 5 nodes)

INR 70 - 80 Crores

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Naming & Branding Rights: Naming and branding rights of the intermodal hubs or tunnel entry/exits can be tendered out similar to other Metro stations

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Station	Company	Revenue (Cr.)	Duration	Remarks
Konappana Agrahara	Infosys	100	30	Naming rights, Commercial space, walkway access, Advertisement space
Hebbagodi	Biocon	65	30	Naming rights
Bommasandra	Delta	75	30	Naming rights, walkway access
Lakkasandra	Bosch	10	30	Walkway access

Bank of Baroda St...

- Drawing on historical agreements for metro stations like Konappana Agrahara (Infosys), Hebbagodi (Biocon), Bommasandra (Delta), and Lakkasandra (Bosch), anticipated revenue of approx. INR 2 Crores/hub and an additional INR 20 Crores from naming rights of 10 entry/exit points

INR 20 - 25 Crores

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Toll from buses: INR 130–150 Crore p.a. projected by allowing buses; the third lane can also be evaluated for other uses (e.g., electric tram)

Toll Rates for bus	6.65	INR per Km
For tunnel, the rate would be 10x according to Morth guidelines	66.45	INR per Km
Toll for the full tunnel length	**1109**	**INR**
Bus toll revenue over Car toll revenue	3.4	x multiple
Expected composition of buses in overall Traffic[1]	3%	
Expected annual Tolling revenue from car PCUs (year 1)	1300	Crores
Expected annual Tolling revenue from Bus PCUs	**131**	**Crores**

Estimated revenue is based on a toll rate of 3.4 times the car PCU toll rate (INR 1100 for full length - MoRTH guidelines) with an expected 3% composition of buses in total traffic, according to traffic volume data -Rodic

INR 130 - 150 Crores

Source: Morth Guidelines, Traffic Volume Counts survey, Rodic

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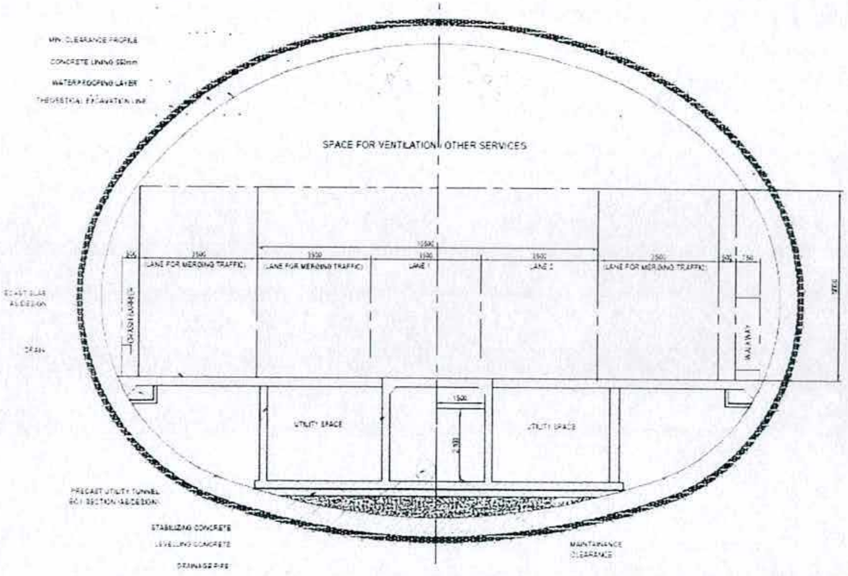
Utilities (Optical Fiber): INR 10 – 15 Crores per annum projected by leasing Optical fiber cables to Telecom companies

Benchmarks	Description
BMRCL	Leasing excess Optical Fiber Cable (OFC) at INR 5040 per pair per month per km for around 20 pairs over 42.7 kilometers, generating approximately 5 crore annually. Contracted telecom providers include Hathway Digital, Sify Technologies, Shyam Spectra, Hathway Cable, and Datacom Ltd.
Bay Area Rapid Transit (BART)	Bay Area Rapid Transit (BART) in San Francisco has agreements with telecom providers (e.g., Verizon, AT&T) to improve connectivity and generate revenue by leasing existing infrastructure and utility boxes

Expected revenue from the tunnel by leasing for optical fibre cable for telecom companies

Contract Rate	5000	INR/Km/pair/Month
Approx. Pairs	50	*double of metro tunnels*
Length	34	Km (Both tubes)
Approx. revenue	**10.2**	**Crores**


MIN. CLEARANCE PROFILE
CONCRETE LINING 550mm
WATERPROOFING LAYER
THEORETICAL EXCAVATION LINE
SPACE FOR VENTILATION / OTHER SERVICES
LANE FOR MERGING TRAFFIC
LANE FOR MERGING TRAFFIC
LANE 1
LANE 2
LANE FOR MERGING TRAFFIC
CRASH BARRIER
WALKWAY
DRAIN
UTILITY SPACE
UTILITY SPACE
PRECAST UTILITY TUNNEL
STABILIZING CONCRETE
LEVELLING CONCRETE
DRAINAGE PIPE
MAINTAINANCE CLEARANCE
3500
3500
3500
3500
1500
750

Projected revenue from leasing tunnel space for 50 optical fiber pairs (vs. 20 in metro tunnels) as tunnels has more than 5x the utility space, at INR 5000 per km/pair/month (BMRCL rate) for telecom companies

INR 15 - 20 Crores

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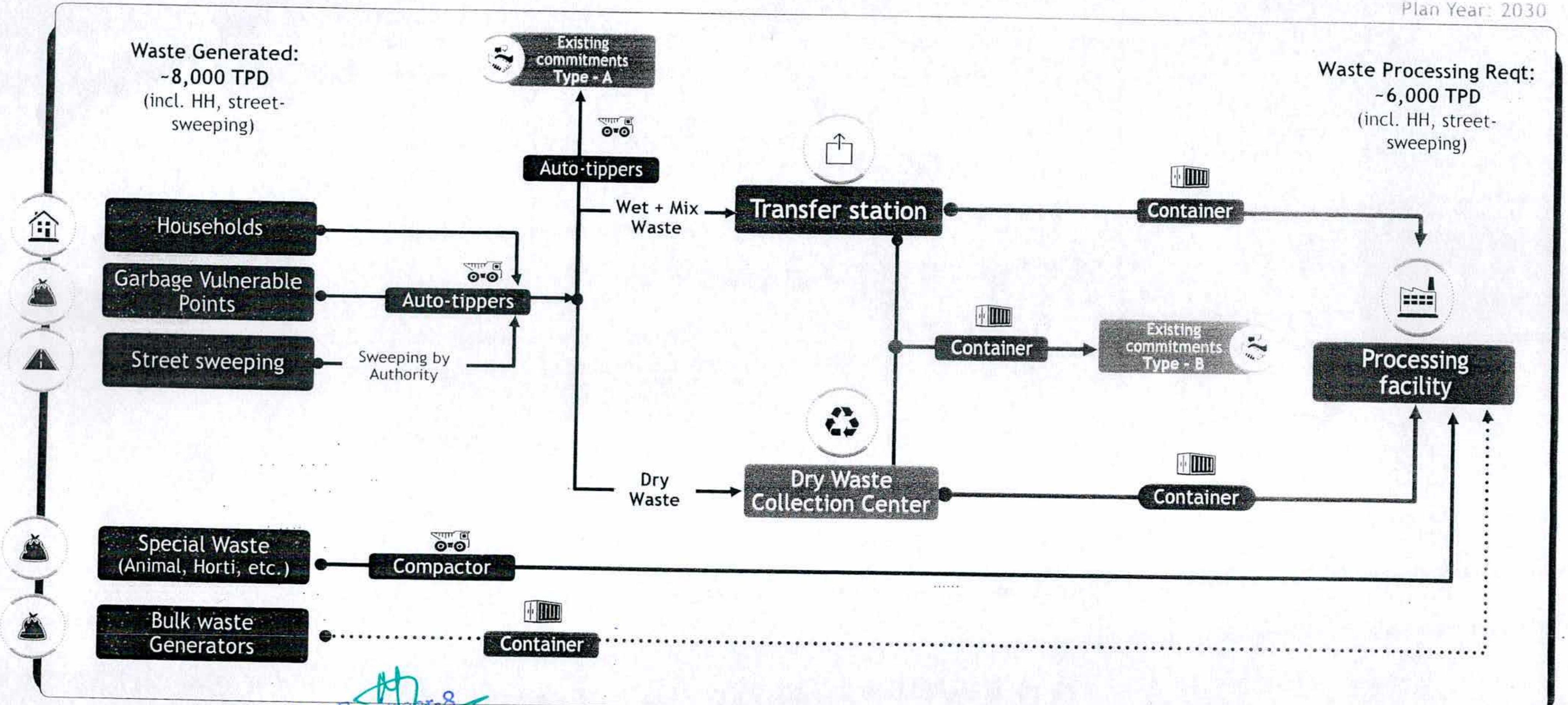
Primary C&T Scope
ISWM Tender Scope

Updated Scope | Integrated Solid Waste Management (Steady State)

Plan Year: 2030



Waste Generated:
~8,000 TPD
(incl. HH, street-sweeping)

Waste Processing Reqt:
~6,000 TPD
(incl. HH, street-sweeping)

Households
Garbage Vulnerable Points
Street sweeping
Sweeping by Authority
Auto-tippers
Auto-tippers
Existing commitments Type - A
Wet + Mix Waste
Transfer station
Container
Container
Existing commitments Type - B
Dry Waste
Dry Waste Collection Center
Container
Processing facility
Special Waste (Animal, Horti, etc.)
Compactor
Bulk waste Generators
Container

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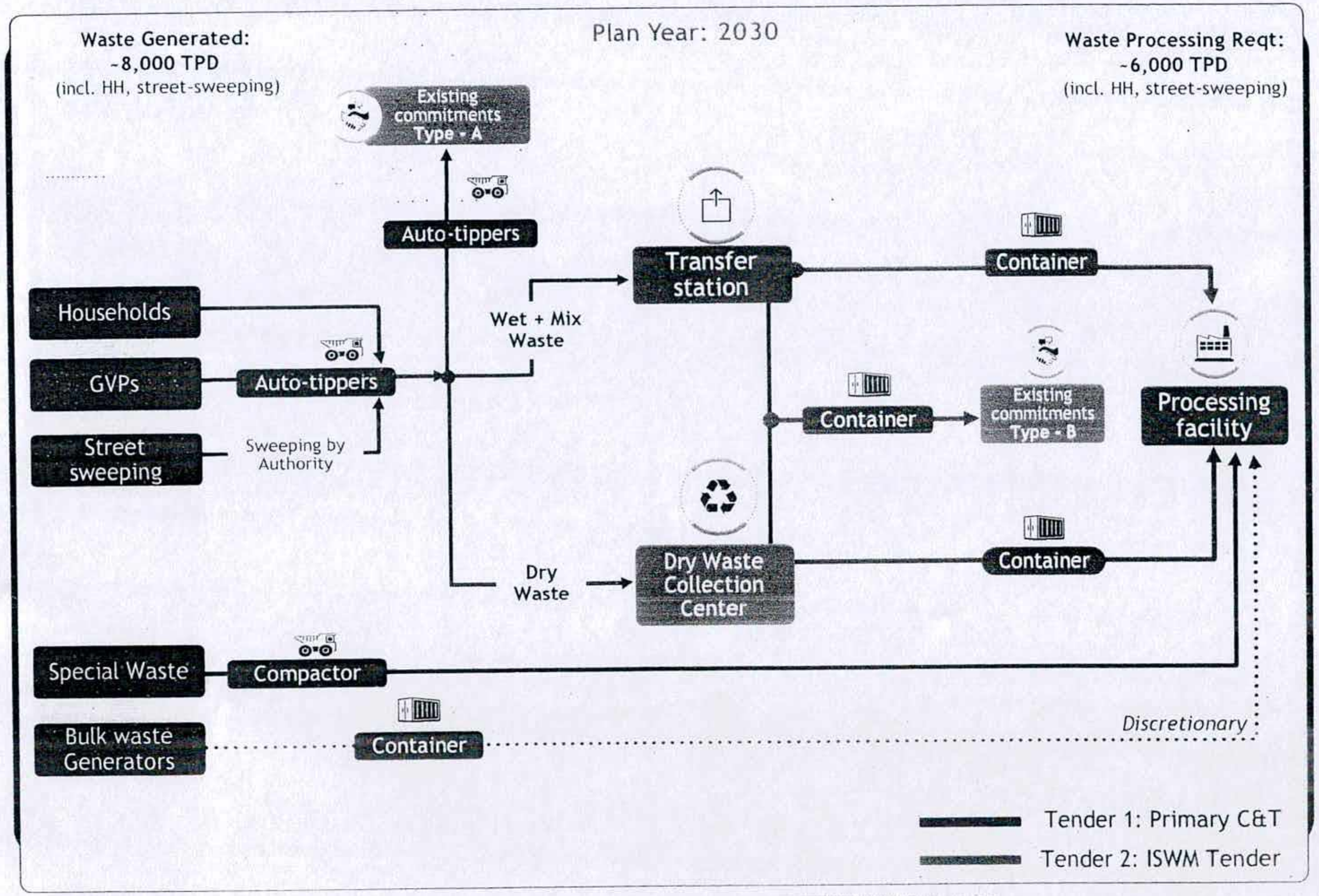
Updated Scope | Integrated Solid Waste Management



Plan Year: 2030

Waste Generated:
~8,000 TPD
(incl. HH, street-sweeping)

Waste Processing Reqt:
~6,000 TPD
(incl. HH, street-sweeping)

Existing commitments Type - A

Auto-tippers

Households

GVPs

Street sweeping

Sweeping by Authority

Auto-tippers

Wet + Mix Waste

Transfer station

Container

Container

Existing commitments Type - B

Processing facility

Dry Waste

Dry Waste Collection Center

Container

Special Waste

Compactor

Bulk waste Generators

Container

Discretionary

Tender 1: Primary C&T

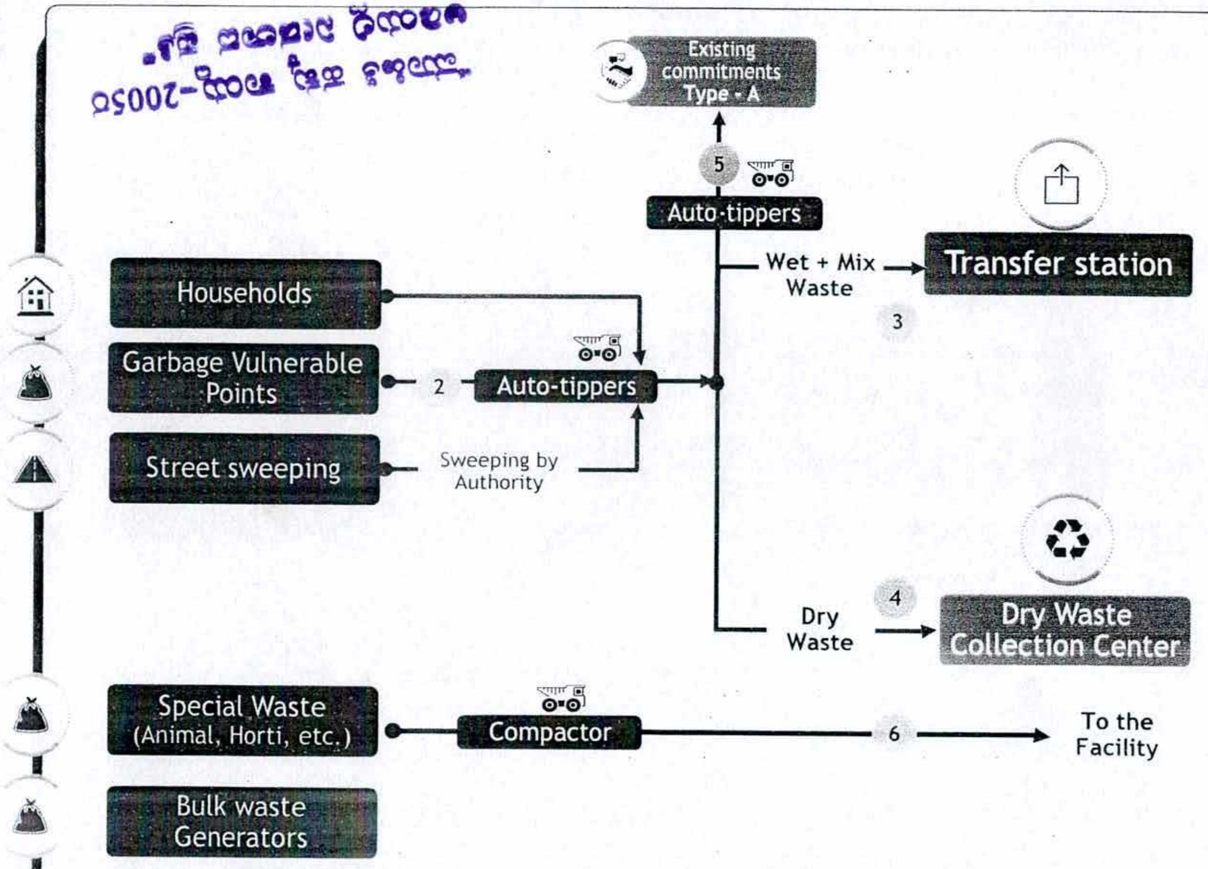
Tender 2: ISWM Tender

1. Primary C&T permanently removed from the scope of ISWM.
2. Auto-tippers shall deliver source-segregated waste to:
   1. Wet waste to Transfer Stations
   2. Dry waste to DWCCs
   3. Waste to the existing commitments within the city limits
3. 30 Transfer Stations to be handed over to the Concessionaire in a phased manner with hook-loaders and containers (new T/s in 1-2 yrs, existing 3-4 in 5-7 yrs)
4. Rag-picker associations shall operate the DWCCs and collect revenues from the sale of recyclables
5. Existing commitments (MSGP, GAIL, Bidadi WTE) to be fulfilled by concessionaire until their contract expiry (2035)
6. ISWM Concessionaire to be empaneled as an Authorized Waste Processor, and shall be allowed to collect Service Charge from the BWGs in return for royalty shared with Authority for land usage.

Primary C&T Scope
ISWM Tender Scope

Updated Scope | Integrated Solid Waste Management (Steady State)

Plan Year: 2030


Existing commitments Type - A
5
Auto-tippers
Wet + Mix Waste
Transfer station
3
Households
Garbage Vulnerable Points
2
Auto-tippers
Street sweeping
Sweeping by Authority
4
Dry Waste
Dry Waste Collection Center
Special Waste (Animal, Horti, etc.)
Compactor
6
To the Facility
Bulk waste Generators

❶ Primary Collection & Transport not in the scope of ISWM

❷ The Primary C&T Agency will collect waste from Households, GVPs and street-swept materials in a source-segregated fashion in segregated Auto-tippers

❸ The Auto-tipper will deliver the Wet/Mix-Waste to the Transfer Stations

❹ The Auto-tipper will deliver the Dry-Waste to the DWCC

❺ The Auto-tipper will deliver some Waste to the Pre-existing commitments

❻ Special Waste (Animal carcass, etc.) will be delivered by the Primary C&T Agency directly to the Processing Plant

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Primary C&T Scope

ISWM Tender Scope

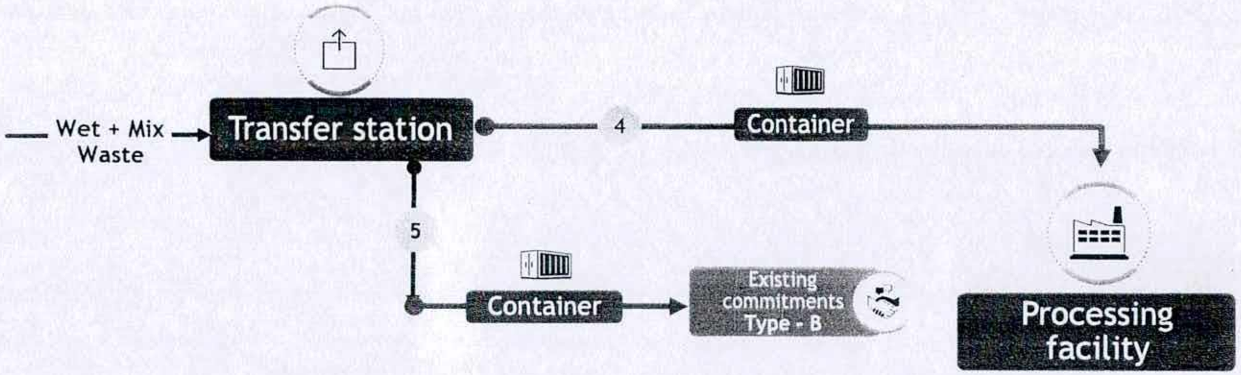
Updated Scope | Integrated Solid Waste Management (Steady State)

Plan Year: 2030

1. There will be 30 Transfer Stations across the 4 packages which will be handed over to the Concessionaire in a phased manner.

2. Existing: 4 Transfer Stations are currently operational, for a duration of 5-7 years. These will be handed over from the Pvt. Party to the Concessionaire after expiry of the contract, along with hook-loaders and containers.

3. Planned: 26 Transfer Stations are to be developed by the Authority, over the next 1-2 years. These will be handed over to the Concessionaire, along with civil structures, static compactors, containers, hook-loaders.



4. Concessionaire shall transport Waste to the their own Processing Facility using hook-loaders & containers.

5. Some Transfer Stations will be notified as tagged to an Existing Commitment. From these Transfer Stations, the Concessionaire shall transport the notified type and quantity of waste to the Existing Plant for the duration of the Commitment contract.

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Primary C&T Scope

ISWM Tender Scope

Updated Scope | Integrated Solid Waste Management (Steady State)

Plan Year: 2030

❶ There are ~110 DWCCs operational in the 4 packages. The Dry Waste shall be received by the DWCCs in each Package. These DWCCs will be operated by rag-picker associations.

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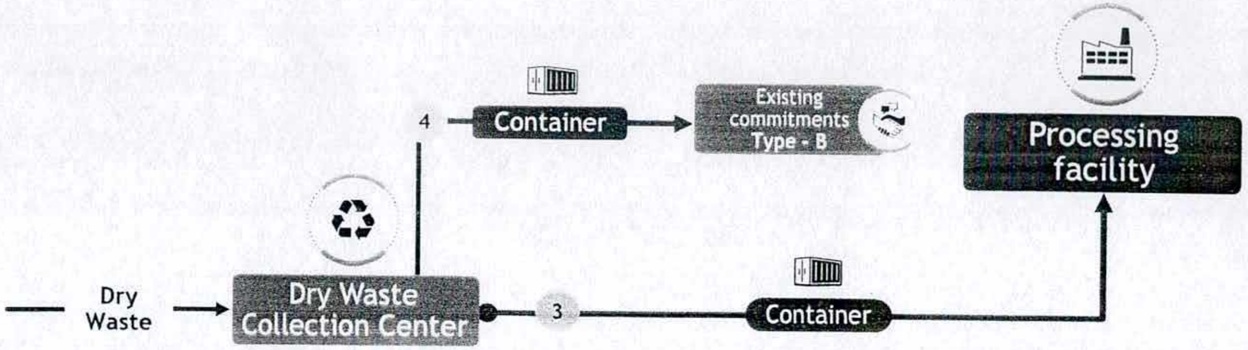
❷ Rag-picker associations shall benefit from the sale of recyclables and valuables sorted from the Dry Waste. They will also be responsible for the OpEx costs of the DWCC.

❸ After the Dry Waste has spent one day at the DWCC, the Concessionaire shall transport the remaining Waste to their own Processing Facility using hook-loaders & containers.

❹ Some DWCCs will be notified as tagged to an Existing Commitment. From these DWCCs, the Concessionaire shall transport the notified type and quantity of waste to the Existing Plant for the duration of the Commitment contract.



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▬ Primary C&T Scope
▬ ISWM Tender Scope

Updated Scope | Integrated Solid Waste Management (Steady State)

Plan Year: 2030

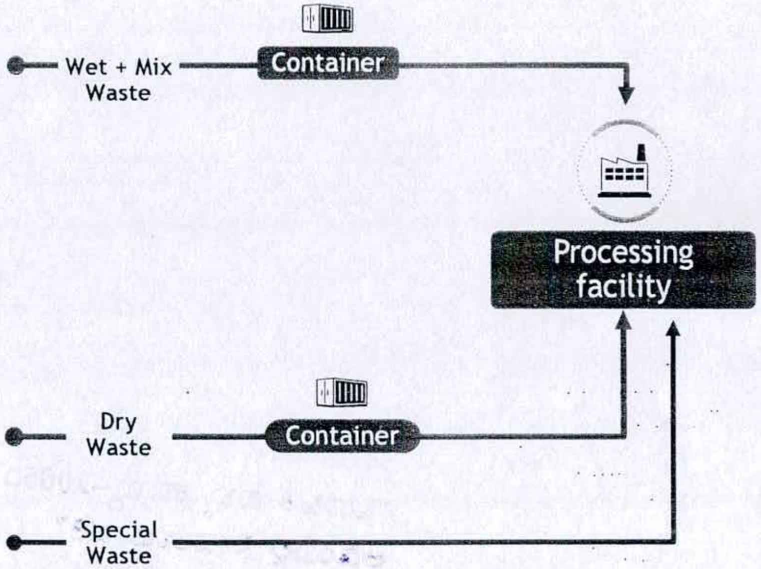
① The Concessionaire shall set up a Processing Facility and Disposal Site for managing the Waste generated in each package.

② The current model assumes the following technologies to process the waste:

- a. Waste-to-Energy Plant (~1,600 TPD)
- b. Bio-methanation Plant (~3,000 TPD)
- c. Animal rendering, carcass & sanitary waste plant (~150 TPD)
- d. Landfill (~1,200 TPD)

③ The above split is not binding. The processing facility should be set up to meet the following KPIs:

- a. Extent of Recovery: More than 70% of the waste received annually shall be processed or recycled, and shall annually increase
- b. Quantum of waste landfilled: Should be less than 20% of the waste received
- c. Compliance with Environment, Health, Safety Monitoring Parameters



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Packaging (Before) | The four packages in the earlier tender emerged to be distinct w.r.t. 1.5x population difference and 8x difference in existing capacity

		Package 1	Package 2	Package 3	Package 4	Combined
Planned Population (Year 2030)	Million	3.6	5.5	4.5	5.6	**19.2**
		(North)	(West)	(East)	(South)	
Secondary Planned Waste	TPD	1,500	2,200	1,800	2,300	**8,000**
(less) Existing Commitments	TPD	850	700	100	400	**2,000**
Processing & Disposal Requirement	TPD	**700**	**1,600**	**1,700**	**2,000**	**6,000**

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Packaging | Recommendation to consolidate the older 4 packages into 2 packages as per land availability

	Option 1	Option 2
Description	• **Convert the 4 packages into 2 packages** in the North and South • 80-90 acres for 2,500-3,500 TPD including buffer and landfill* • (Benchmark: 4,000 TPD Processing facility in Chennai at 78 Acres, excl. landfill)	• **Float tenders for all 4 packages now** • 50-80 Acres for 1,000-2,000 TPD including buffer and landfill
Pros	• Immediate award of tender and swift execution • No additional land required before award of tender	• Immediate award of tender
Cons	• Might require additional land for landfill later Potential increase in cost of transportation due to centralized locations	• Higher probability of complaints raised by developers due to delays in handover of land • Risk of indefinite delay in project execution due to unavailability of land • Increased risk for Developer (can be managed with strong Conditions Precedent clause)
	Recommended	

As per DGM, each package will require at least 80 Acres (30 Acre buffer + 25 Acre Processing Unit + 25 Acres Landfill); if 4 packages are combined into 2, then 100 Acres is feasible (30 Acres buffer + 30 Acres Processing Unit + 40 acres Landfill)

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Packaging | ISWM Project to be split into 2 packages with equal population; capacity shall slightly vary due to difference in existing commitments

Package-wise Financial Analysis

Item	Unit	Package 1: North	Package 2: South	Total
Population (BBMP & BUD)	Mn	68,39,609	69,52,872	1,37,92,481
Waste generated in Project Area	TPD	4,047	4,113	8,160
Existing Commitments	TPD	976	1,113	2,088
Waste for Secondary Transportation	TPD	3,822	3,900	7,722
Average distance from proposed Site	km	75	40	-
Waste for P&D	TPD	3,073	2,999	6,072

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Bidder Selection | Proposed to move from QCBS to L1 Selection Criteria with a 3-step process

The draft bidding documents from the Ministry of Housing and Urban Affairs (MoHUA) for integrated solid waste management projects (via PPPs of a similar nature), as well as tenders from other major cities (such as Chennai and Hyderabad), have largely utilized an L1 (lowest bid) model preceded by a technical evaluation. In addition, given that Primary Collection and Transportation (C&T) has been removed from the scope, the tender now falls under the category of a Works tender rather than a Services tender—tenders of this nature are typically awarded based on L1 criteria. This approach **promotes cost competitiveness, ensures technical viability, and upholds an objective selection process**.

Before (QCBS Criteria)

1. **Technical Qualification** – Evaluation of financial capacity and technical experience in comparable projects. Technical Bids of only qualified bidders shall be opened.
2. **Technical Score Evaluation** – Scoring of Bidders on the basis of past experience in similar or relevant projects, detailed proposals (including methodology and understanding), and key personnel.
3. **Financial Score Evaluation** – Scoring of Bidders on the basis of the quoted tipping fee.
4. **Combined Bid Evaluation** – Final Scores given with 70% weightage on Technical and 30% weightage on Financial Score. The bidder with the highest score is awarded the tender.

Proposed (L1 Criteria)

1. **Technical Qualification** – Evaluation of financial capacity and technical experience in comparable projects. Technical Bids of only qualified bidders shall be opened.
2. **Technical Bid Evaluation** – Assessment of past experience in similar or relevant projects, detailed proposals (including methodology and understanding), and key personnel. Bidders must achieve a minimum score of 70 out of 100 in the technical bid evaluation to advance further.
3. **Financial Bid Evaluation** – Comparison of the quoted tipping fee shall be done for the qualified bidders, with the lowest responsive bid (L1) ultimately being selected for award of the tender.

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Securities | Proposed to reduce the Security requirements to reduce financial burden on the Concessionaire in the BOT model

Given that this project follows a DBFOT (Design-Build-Finance-Operate-Transfer) model, entailing full private investment (as opposed to the Hybrid Annuity Model followed in the NITI Aayog document), these security obligations impose a considerable financial burden on developers, as highlighted by multiple bidders across the various interactions done so far, including the pre-bid meeting. In order to enhance the project's attractiveness, it is proposed to reduce the security requirements, as below:

Security requirements		
Security Type	**Before (as per NITI)**	**Proposed**
Performance Security	9% of Project Cost till COD, 2.25% thereafter	5% of Project Cost till COD, 1.25% thereafter
O&M Security	4% of the O&M Project Cost (tipping fee payable that year) (COD till end)	4% of the Tipping Fee Payable in the previous year (COD till end)
ESHS (Environmental, Social, Health & Safety) Security	1% of the Project Cost (Execution Date till end)	1% of the Project Cost (Execution Date till end)
Technology Performance Security	5% of aggregate capital cost (Execution Date till end)	To be removed, in line with MoHUA's standard document for BOT projects

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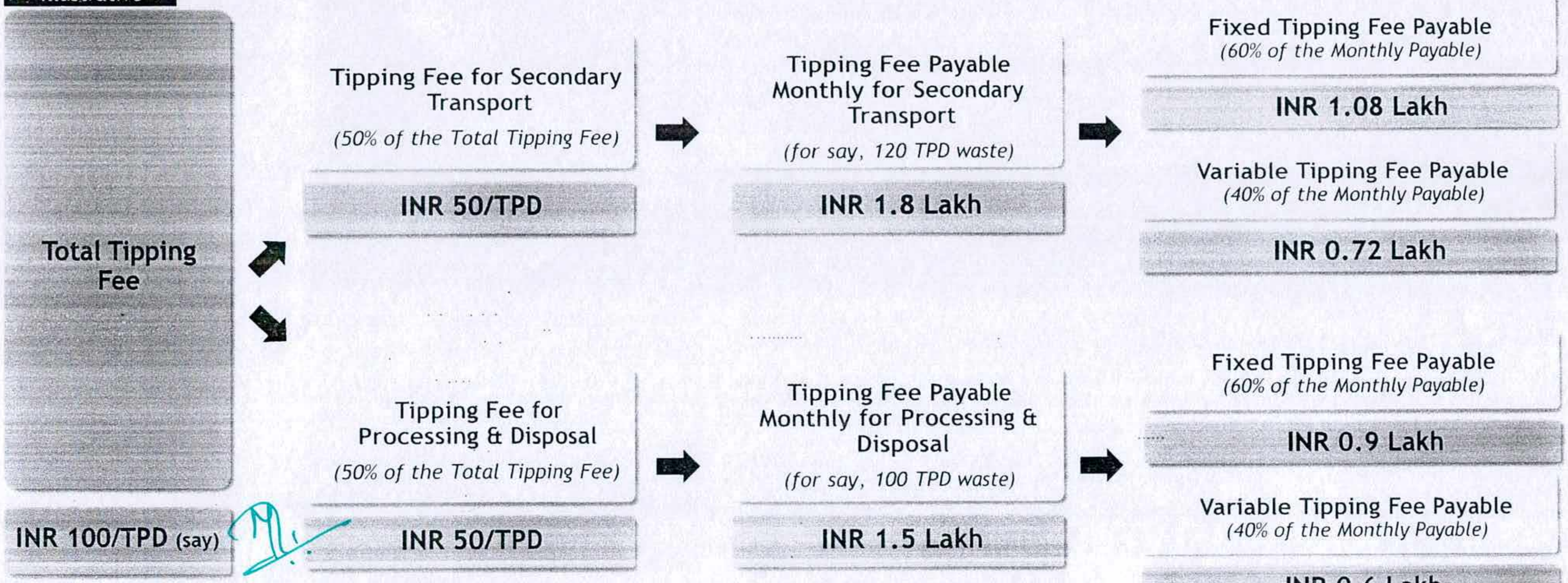
Payment Structure | Proposed to have a 60:40 ratio of Fixed:Variable payments basis KPIs

1. Tipping Fee split into 50:50 ratio for Secondary transportation and Processing & Disposal

2. Tipping Fee x Tons of Waste managed = Monthly amount due

3. 60% of the Amount paid upfront, 40% paid basis adherence to KPIs

Illustrative



Total Tipping Fee

INR 100/TPD (say)

Tipping Fee for Secondary Transport

(50% of the Total Tipping Fee)

INR 50/TPD

Tipping Fee Payable Monthly for Secondary Transport

(for say, 120 TPD waste)

INR 1.8 Lakh

Fixed Tipping Fee Payable

(60% of the Monthly Payable)

INR 1.08 Lakh

Variable Tipping Fee Payable

(40% of the Monthly Payable)

INR 0.72 Lakh

Tipping Fee for Processing & Disposal

(50% of the Total Tipping Fee)

INR 50/TPD

Tipping Fee Payable Monthly for Processing & Disposal

(for say, 100 TPD waste)

INR 1.5 Lakh

Fixed Tipping Fee Payable

(60% of the Monthly Payable)

INR 0.9 Lakh

Variable Tipping Fee Payable

(40% of the Monthly Payable)

INR 0.6 Lakh

Figures shown are illustrative

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Risk Mitigation | Key clauses introduced to manage risks for Authority & Concessionaire

#	Risk	Description	Mitigation
1	**Construction & Delay Risks**	Delay in site handover, approvals, or mobilization	• Strict milestone definitions & penalty clauses for delayed handovers. • Clear "Conditions Precedent" & mobilization schedule. • Damages for delays in construction, meeting conditions precedent, etc. enforceable via Performance Security. • Clear government obligations for vacant & encumbrance-free land. • Progressive takeover clause or phasing plan. • Contractual remedies if handover is stalled
2	**Financial & Payment Risks**	Delayed Tipping Fee payments	• Escrow Account with minimum 3-month Tipping Fee buffer. • Monthly invoice certification process & prompt disbursement timeline. • Minimum Waste Guarantee introduced
3	**Operational & KPI Compliance Risks**	Non-adherence to KPI targets	• Clear Key Performance Indicators (KPIs) & monthly monitoring by IE/PMU • Tech solutions (GPS, weighbridge data) for real-time operational tracking.
4	**Environmental, Health & Safety (EHS) Risks**	Reputational/legal damage from environmental lapses or accidents	• ESHS Performance Security to enforce compliance. • Mandatory EHS plan, safety audits, & third-party monitoring. • Strict penalty for EHS non-conformities & immediate rectification protocols.
5	**Post-Closure & Hand-Back Risks**	Landfill closure, final capping, & long-term monitoring disputes	• Documented "post-closure" obligations (15-year monitoring, etc.). • Detailed hand-back conditions & condition surveys prior to contract expiry. • O&M Security retention to ensure compliance with post-closure standards.

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Benchmarks | Other Mun. Corporations offering similar or higher tipping fee

City	Hyderabad	Delhi	Goa	Chennai	Indore (ULB)
Year	2009	2009	2023	2024/25	-
Scope	**Secondary C&T and P&D** (WTE, compost)	**C&T and Processing** (WTE, compost)	**P&D** (WTE, compost)	C&T Street-sweeping	C&T Drain-silting
Grant/VGF	INR 250 Crores	30% of Capex	-	-	-
Tipping Fee/TPD[3]	**INR 1,431**	**INR 1,960**	**INR 6,224**	**INR 4,400[1]**	**INR 4,200[2]**
Inflation Adjusted Fee/TPD	**INR 2,600**	**INR 3,124**	-	**INR 4,400[1]**	-
Capacity	**8,000 TPD**	**700-1,000 TPD[4]**	**250+250TPD**	-	-
Comment	Escalation: 5% + 60% of WPI annually	Escalation: 3.5% per annum	N/A	Performance-based monthly payment (no tipping fee)	Collection Fee from households (>80% collection rate)

Chennai, Delhi 2016, Hyderabad, Lucknow: Ramky; Delhi 2020: ILFS and Metro Waste; Indore: Municipal Corporation

1. No tipping fee model in Chennai, this is an estimated figure. 2. Spent by IMC. 3. Amount tendered. 4. Increasing every year till end of concession

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Preliminary view on Bulk Waste Management

1. There are 3000+ Bulk Waste Generators in the Project area. Bulk Waste Generators are defined as:
    a. Residential waste generators with more than 100 Multi Dwelling Units (MDUs)
    b. Commercial and Institutional waste generators generating solid waste of more than 100 kgs per day or located on the premises with site area of more than 5,000sqm, or carrying out public events.

2. The Concessionaire must ensure that they are empaneled as an **Authorized Waste Processor**. The Concessionaire shall be allowed to collect waste directly from BWGs using it's own vehicles.

3. Concessionaire shall collect a Service Charge from the BWGs for provision of this service.

4. In exchange for utilizing the Authority's land for this commercial activity, the Concessionaire shall do Revenue Sharing with the Authority for each TPD of Bulk Waste processed.

5. Revenue Sharing will be calculated as per the annual declared waste amounts of each BWG and the same shall be deducted by the Authority from the tipping fee to be paid. (based on average quarterly figures and not actual weighments)

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Preliminary view on Bulk Waste Management

Plan Year: 2030

1. There are 3000+ Bulk Waste Generators in the Project area. Bulk Waste Generators are defined as:
    a. Residential waste generators with more than 100 Multi Dwelling Units (MDUs)
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Deep-dive ahead

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Potential to recover land cost via 20% royalty on bulk waste user charges

Unit economics for C&T and P&D of Bulk waste

	INR/ TPD
Cost of C&T and P&D	2800
User fees charged[1]	4000 - 6000
Margin for processor	1200 - 3200
%margin	30% - 55%

Capex and Opex calculations for 1000 TPD Bulk waste

	Value (INR Cr)	Assumptions
Capex exc. Land *(C&T + P&D)*	303	
Land cost (A)	285	29 acres of 200 acres assumed @ INR 10Cr/ acre
Capex inc. Land cost	446	
Opex for 1st year	71	
NPV of lifetime capex (inc. land cost) (B)	700	NPV @7% over 30 years
NPV of lifetime Opex (C)	1333	
Land cost as % of Total lifetime cost	**15%**	Calculated as (A/(B+C))

BBMP's share of user charges can potentially vary from **15% - 30%**

ULBs in **Indore, Delhi, Gurgaon, and Noida provide free land without charging royalty** for similar projects

A **20% royalty on user charges** can be charged by BBMP - **~INR 800 - 1200 per TPD**

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[1] Estimates based on market benchmarks

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Preliminary benchmarking conducted across 6 cities to identify opportunities

Ahmedabad

Mumbai

Pune

Hyderabad

Chennai

Indore

Tax and Non-tax revenue streams benchmarked **across 6 municipal corporations to identify opportunities for:**

- Augmentation of existing revenue streams **for BBMP**
- **Introduction of** new revenue streams

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Non-Exhaustive

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Long-list of revenues streams across key municipal corporations created - scope to explore select revenue streams for BBMP

55% Tax and Cess Revenue	18% Revenue Grants, Contributions & Subsidies	15% Fees & User Charges	7% Income from Investments	3% Rental Income from Municipal Properties	2% Other Income	0% Assigned Revenues & Compensation	XX% Sales & Hire Charges
Property Tax Water and sewerage Tax Education Tax Vehicle Tax Fire Tax Street Tax Entertainment Tax Tree Cess Animal/Dog Cess Lighting Tax	In lieu of Octroi Central Finance Commission Grants State Finance Commission Grants	Development Charges (premium/fungible FSI, zone conv, infra charge) User charges (comm., Water and sewerage charges) Other Charges (staircase & lift premium, legal, garbage collection) Regulation/ Licensing fees Regularization fees Penalties and Fines Fees for Certificate or Extract Entry Fees (zoo, pools, etc.) Empanelment & Registration Charges Advertisement Fee Other Fees (Scrutiny fees, fire & emergency services)	Interest from FD Interest from Endowment fund Interest from Pension Funds Interest from other liquid funds Interest from Arrears	Rent from office buildings From lease of land From Civic Amenities	Deposits forfeited (EMD, security etc.) Recovery from employees (fine, rent recovery, etc.) Contributions & transfers (pension fund, other funds) Misc. income (supervision charge, exhibition, auction etc.) Lapsed deposits	Assignment from Taxes and Duties collected by others Compensation in lieu of Tax/Duties	Hire for vehicles (water tanker, hearse van) Hire charges on equipment (fire engine) Sale of Products (Mun sewage, etc.) Sale of Forms & Publications Sale of stores/scrap
Scope to enhance and levy new Cess	Deprioritized-not in control	Scope to enhance and levy new Charge	Scope to optimize the investment strategy	Small quantum-scope to revalue assets & look at agreements/ contracts	Deprioritized-small quantum, lesser control	Deprioritized-not in control	Small quantum-scope to re look at asset utilization and streamline SOPs

...... % of BBMP's Revenue

Revenue streams existing for BBMP High Priority Medium Priority ▨ Deprioritized

Source: Financial Statements of Municipal Corporations (BBMP, BMC, PMC, IMC, [illegible], AMC)

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Tax | Benchmarking indicates scope to evaluate 5 tax revenue streams for BBMP

Head of Account	Bangalore	Mumbai	Pune	Hyderabad	Chennai	Ahmd.
Income: FY23	INR Cr	INR Cr	INR Cr	INR Cr	INR Cr	INR Cr
Tax and Cess Revenue						
Property Tax	2,520	1,644	3,195	983	1,063	1,187
Street Tax	-	871	-	-	-	-
Water, Sewerage, Fire Tax	-	3,025	846	168	-	46
Education Tax	-	690	-	-	(20)	-
Tree Cess	-	36	-	-	-	-
Conservancy Tax	-	-	-	505	-	-
Professional Tax	-	-	-	-	974	211
Vehicle Tax	-	-	-	-	-	187
Lighting Tax	-	-	-	168	146	-
Other Taxes & Cess[1]	435	206	2	77	149	40
Total	2,955	6,471	4,043[2]	1,901	2,312	1,671
Tax Revenue/Capita (INR)	2,111	3,807	5,538[2]	2,376	1,926	1,888

Multiple other taxes/cess like street tax, water & sewerage, lgihting & conservancy tax are collected as % of property tax:

1. Property Tax: Scope to increase collections and simplify valuation method
2. Street tax: Mumbai charges at 0.05%-0.23% (of capital value for road development)
3. Conservancy Tax: levied as part of SWM cess but lesser collection of only INR 74 Cr
4. Lighting Tax: Scope to charge lighting tax as INR 250-300 Cr is being spent on Street lightings
5. Entertainment Tax: Chennai collecting INR 50 Crores p.a.

High Priority ▨ Low Priority

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[1] Entertainment tax, Health cess, beggary cess, library cess, dog registration urban infra cess

[2] Pune getting a share of GST and stamp registrations collections - Excluding Local body tax (INR 2539 Cr)

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Non-tax | Scope to evaluate 7 key non-tax revenue streams for BBMP

Head of Account	Bangalore	Mumbai	Pune	Hyd.	Chennai	Ahmd.
Income: FY23	INR Cr	INR Cr	INR Cr	INR Cr	INR Cr	INR Cr
User Charges (Duct Services/OFC Charges, parking fee, road cutting permission)[2]	162 *(Duct/OFC charges, road cutting)*	3,051 *(Water & sewerage charges)*	433 *(Road dev., major infra - % property tax)*	13	45	277 *(Water, sewerage irrig. grant)*
Development Charges	490 *(Building License, regulation fee)*	2,407 *(P -FSI, Building Regulation, Zone conv.)*	1,063 *(P -FSI, Building Regulation, Zone conv.)*	1,456 *(P -FSI, Building Permit, license)*	72	844 *(P -FSI, Building/Plant Permit, Zonal conv)*
Staircase and Lift Premium	-	451	-	-	-	-
Other charges (prorata charges, insecticide tmt, legal)	-	281	-	-	2	126
Other Fees (Scrutiny fees, fire & emergency services)	-	615	4	18	2	-
Regularisation Fees	41	544	-	-	1	-
Penalties and Fines		337	3	5	25	-
Fees for Grant of Permit	-	172 (Ad fee)	-	-	1	16
Empanelment & Reg. Charges		13	13	2	2	6
Trade Licensing Fees	55	220	16	93	24	2
Fees for Certificate or Extract	79	5	2	1	-	1
Entry Fees	-	14	-	4	-	-
Service/Administrative Charges	-	21	500[1]	16	-	3
Total Fee and User charges	827	8,131	2,034	1,608	174	1,275
Fee and user charges/Capita	591	4,783	2,786	2,010	145	1,441
Rental from Municipal Property	188	82	59	0	86	33
Income from investments	362	1,841	232	19	46	120

»

① Parking Fee: Scope to explore Parking fee in Bangalore (minimal collection as of now)

② Development charges - Premium FAR: BMC collected INR 750 Crores (FY23) & Ahmd. collected INR 530 Cr

③ Staircase and lift premium: INR 450 Cr (BMC) collected for FSI space for lift/staircase

④ Scrutiny Fee: BMC collected INR 320 Crores (FY 23) as scrutiny fee - examination of TL, Building license etc.

⑤ Advertisement fee: MCD (Delhi) collected INR 300 Cr, BMC INR 170 Cr

⑥ Trade Licensing: INR 220 Crores (BMC) vs INR 40-45 Crores (BBMP)

⑦ Rental from municipal property: Scope to look at lease policy & monetization

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1. State Transfer - Orphan & other schemes
2. Road cutting permission - INR 54 Crores, Duct/OFC Cables: INR 107 Crore, Parking fee - [illegible] lakhs, charges for clinics/hospitals - 28 Lakhs

High Priority ▨ Low Priority

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Tax Revenues| Per capita comparative analysis

Relative Numbers

Head of Account	Bangalore	Mumbai	Pune	Hyderabad	Chennai	Ahmedabad
Income: FY23						
Tax and Cess Revenue	INR/capita	INR/capita	INR/capita	INR/capita	INR/capita	INR/capita
Property Tax	1,800	967	4,377	1,229	886	1,341
Street Tax	-	512	-	-	-	-
Water, Sewage, Fire Tax	-	1,779	1,159	210	-	52
Education Tax	-	406	-	-	(17)	-
Tree Cess	-	21	-	-	-	-
Conservancy Tax	-	-	-	631	-	-
Professional Tax	-	-	-	-	812	239
Vehicle Tax	-	-	-	-		211
Lighting Tax	-	-	-	210	122	-
Other Taxes & Cess[1]	311	121	3	96	124	45
Total Tax Collection	**2,111**	**3,807**	**5,538[2]**	**2,376**	**1,926**	**1,888**

High Priority ▨ Low Priority

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[1] Entertainment tax, Health cess, beggary cess, library cess, dog registration urban infra cess

[2] Pune getting a share of GST and stamp registration collections - Excluding Local body tax (INR 2539 Cr)

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Non-Tax Revenues| Per capita comparative analysis

Relative Numbers

Head of Account	Bangalore	Mumbai	Pune	Hyderabad	Chennai	Ahmedabad
Income: FY23						
Fee and User Charges	INR/capita	INR/capita	INR/capita	INR/capita	INR/capita	INR/capita
User Charges	116	1,795	593	16	38	313
Development Charges	350	1,416	1,456	1,820	60	954
Staircase and Lift Premium		265				
Other charges		165			2	142
Other Fees		362	5	23	2	
Regularization Fees	29	320			1	
Penalties and Fines		198	4	6	21	
Fees for Grant of Permit		101			1	18
Empanelment & Registration Charges		8	18	3	2	7
Trade Licensing Fees	39	129	22	116	20	2
Fees for Certificate or Extract	56	3	3	1		1
Entry Fees		8		5		
Service / Administrative Charges		12	685	20		3
	591	**4,783**	**2,786**	**2,010**	**145**	**1,441**

▨ High Priority ▨ Low Priority

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Summary of progress on Asset Monetization

① **Comprehensive assessment of BBMP-owned assets:** Overview of the 2,500+ assets across key categories and identification of top 850 assets with monetization potential

② **Monetization of vacant lands:** Identified and evaluated 22+ BBMP-owned vacant land parcels (≥1 acre), and developed leasing models

③ **Operating model for Auditoriums:** Identified and benchmarked BBMP-owned auditoriums and proposed a revised operating model to improve utilization and revenue potential

④ **Operating model for Kalyana Mandapas:** Identified and benchmarked BBMP-owned kalyana mandapas with similar services by other ULBs to propose revised operating model to improve citizen outcome

⑤ **Operating model for sports facility:** Proposed a monetization model for an existing padel court facility owned by BBMP in Sadashivnagar

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Summary of progress on Asset Monetization

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3.2

① **Comprehensive assessment of BBMP-owned assets:** Overview of the 2,500+ assets across key categories and identification of top 850 assets with monetization potential

2 Monetization of vacant lands: Identified and evaluated 22+ BBMP-owned vacant land parcels (≥1 acre), and developed leasing models

3 Operating model for Auditoriums: Identified and benchmarked BBMP-owned auditoriums and proposed a revised operating model to improve utilization and revenue potential

4 Operating model for Kalyana Mandapas: Identified and benchmarked BBMP-owned kalyana mandapas with similar services by other ULBs to propose revised operating model to improve citizen outcome

5 Operating model for sports facility: Proposed a monetization model for an existing padel court facility owned by BBMP in Sadashivnagar

ಮಾಹಿತಿ ಹಕ್ಕು ಕಾಯ್ದೆ-2005ರ
ಅಡಿಯಲ್ಲಿ [illegible]

Exe[illegible]
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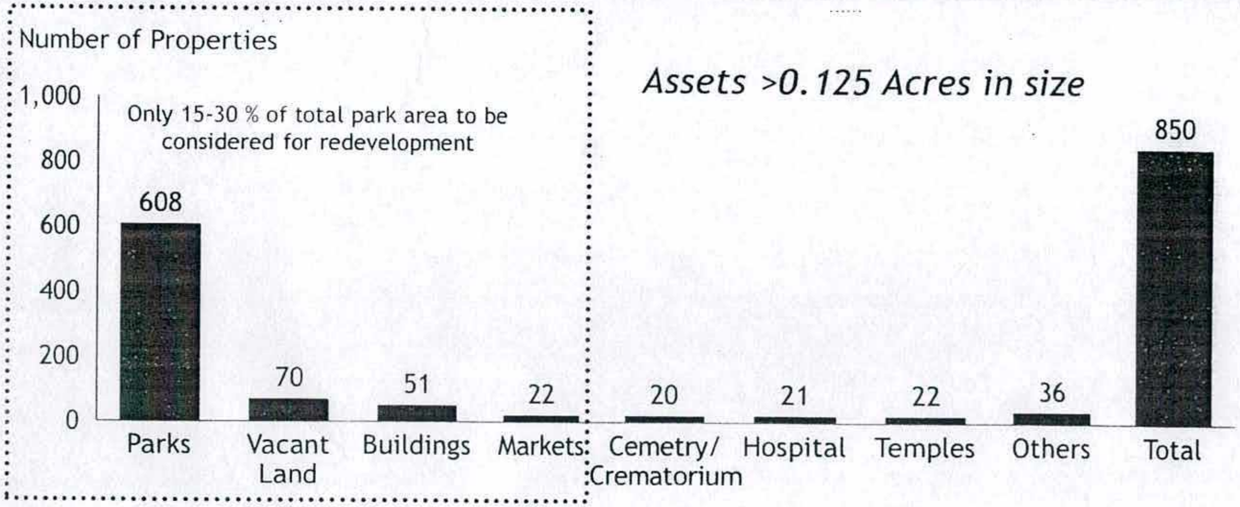
Top 850 out of 2500+ properties analyzed to identify monetization potential across 8 categories



Asset Classes

Top 10 Parks 123 Acres *(20-35 acres for re-dev.)*	Top 10 Vacant Land 37 Acres	Top 10 Building 8 Acres	Top 10 Markets 25 Acres

Top 4 Asset Categories

① Parks:
0.98 Acres
Bhavani Layout Park-1, Banashankari 3rd Stage (35 Acres)

② Vacant Land:
0.6 Acres
BBMP Vacant Land, Karisandra (3.5 Acres)

③ Buildings:
0.4 Acres
BBMP Warehouse & Workshop, 80 Ft Road Ejipura (1.1 Acres)

④ Markets:
1.4 Acres
KR Market (8 Acres)

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ಅಡಿಯಲ್ಲಿ ನೀಡಲಾದ ಪ್ರತಿ"

Key Properties | Top 10 Parks (By Area)

Serial Number	Description of Property	Area in Acres	Ward Name
1	Bhavani Layout Park-1, Banashankari 3rd Stage	34.7	Ganesha Mandir
2	M.N. Krishna Rao Park, Jayanagar	20.9	Jayanagar
3	Bhavani Layout Park-2, Banashankari 3rd Stage	17.8	Ganesha Mandir
4	Dr. Rajkumar Children Playground and Deer Park, Rajiv Gandhi Stadium	13.2	Hanumanthnagar
5	Temple Complex & Playground	7.2	Kumaraswamy Layout
6	Playground near National College	6.8	Sunkenahalli
7	T.R. Shamanna Rock Park (Part-2)	5.9	Basavanagudi
8	BBMP Transferred Park Development Area, Jakkasandra Village	5.6	Koramangala
9	208 SFS Area, Atturu Main Road, Plantation Area, (P-208-1) - Lake facing	5.3	Atturu
10	Kadamba Adugodi Park	5.3	Adugodi

Total Area: 123 acres

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ಅಡಿಯಲಿ ನೀಡಲಾದ ಪ್ರ.ತಿ"

Key Properties | Top 10 Vacant Lands (By Area)

Serial Number	Asset/Property	Area (Acre)
1	Ideal Homes Layout, RR Nagar (1 & 2)	11(6.4+3.9)
2	Jayanagara Housing Society Layout Vacant Land, Bomanhalli	6.4
3	Marginal Land in Basaweshwara Nagar	3.7
4	BBMP Vacant Land. Karisandra	3.4
5	Nagarabhavi Village, Yeshwanthpur Hobli, Bangalore North Taluk	3.0
6	3-Acre Land in Domlur Next to Hotel Royal Orchid	3.0
7	Vacant Land (Lake) Magadi Main Road, Kamakshipalya	2.6
8	Municipal Vacant Land, Yediyur, Jayanagara	1.7
9	Vacant Land P 5-7 Between 2nd and 3rd Main Road, Yelahanka Suburb Phase 5	0.9
10	Vacant Land at Defence Colony, 4th Main Road, Koramangala	0.6

Total Area: 37 Acres

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Key Properties | Top 10 Buildings (By Area)

Serial Number	Asset/Property	Area (Acre)
1	BBMP Warehouse & Workshop, 80 Ft Road Ejipura	1.1
2	IPP Center, 16th Cross, Opp Choudaiah Memorial Hall, Kodandaramapura, Vaiyalikaval, Bangalore	1
3	Large Animal Slaughter Section - BBMP Property at Patari Road, Sagayipuram	0.9
4	Small Animal Slaughter Section - BBMP Property at Patari Road, Sagayipuram	0.9
5	Sir M. Puttanna Chetty Town Hall	0.8
6	Avalahalli Bus Stand, Muneshwara Block	0.7
7	Hampinagar Bus Stand and Toilet	0.7
8	Bengaluru Founder Kempegowda Community Hall, Adugodi	0.6
9	Community Hall and Temple, Dr. Raj Kumar Ward	0.5
10	Community Hall, Gavipuram	0.5

Total Area: 8 Acres

Current utilization details for buildings required to determine feasibility of monetization

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3.2

Key Properties | Top 10 Markets (By Area)

Serial Number	Asset/Property	Area (Acre)
1	[illegible]	[illegible]
2	[illegible]	[illegible]
3	Jayanagara 4th Block commercial building	3.9
4	Rajajinagar, 2nd Block, Commercial Complex	2.2
5	Market in Sampige Raste, Malleswaram	1.7
6	Kempegowda Maharajah Complex, Chikpete	1.1
7	[illegible]	[illegible]
8	BBMP Sheep Market b/w Sagaipura pottery road and tannery road	1
9	BBMP Corporation Shop	0.9
10	Mutton Market, Near K.R Market	0.8

Total Area: 25 Acres

■ *Markets not considered for redevelopment (Russell Market currently being redeveloped)*

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ಅಡಿಯಲ್ಲಿ ನೀಡಲಾದ ಪ್ರತಿ"

"ಮಾಹಿತಿ ಹಕ್ಕು ಕಾಯ್ದೆ-2005ರ ಅಡಿಯಲ್ಲಿ ನೀಡಲಾದ ಪ್ರತಿ"

Summary of progress on Asset Monetization

1. Comprehensive assessment of BBMP-owned assets: Overview of the 2,500+ assets across key categories and identification of top 850 assets with monetization potential

2. **Monetization of vacant lands:** Identified and evaluated 22+ BBMP-owned vacant land parcels (≥1 acre), and developed leasing models

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5. Operating model for sports facility: Proposed a monetization model for an existing padel court facility owned by BBMP in Sadashivnagar

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Key details of the 8 high potential vacant land parcels identified across zones

	Sr. No.	BBMP Sr. No.	Zone	Ward	Details of land parcel	Area (acres)	Land use per master plan	Guidance value (INR per acre)	Total land value (INR Cr)
✪	A	-	East	Domlur	Vacant land next to Old HAL Airport road	1.5	Residential	88 Cr	132 Cr
✪	B	-	South	Sudhamanagar	Corporation complex on JC road	0.3	Commercial	87 Cr	32 Cr
✪	C	-	Mahadevpura	Horamavu	Vacant land	0.5	Residential	23 Cr	11.5 Cr
✪	D	1329	West	Kamakshipalya	Vacant land (lake), Magadi Main Road, Kamakshipalya	2.66 (records) 2 (actual)[1]	Residential (mixed)	40.5 Cr	81 Cr
✪	E	4472	R.R. Nagar	R.R. Nagar	Vacant Land in Ideal Homes Layout (Defunct park)	1.94	Residential	40.5 Cr	78 Cr
✪	F	3684	Bommanahalli	Uttarahalli	Jayanagar Housing Society Layout (Defunct park)	1	Residential	22 Cr	22 Cr
✪	G	4479	R.R. Nagar	R.R. Nagar	Munivenkataiah Open-Air Theater	1.67	Residential	32.4 Cr	54 Cr
✪	H	4466	R.R. Nagar	R.R. Nagar	Balakrishna Rangamandira	1.15	Residential	44.5 Cr	51 Cr
✪	I	4480	R.R. Nagar	R.R. Nagar	Ideal Homes Layout (Vacant)	1.15	Residential	32.4 Cr	37 Cr
	Total					11		410.3 Cr	498.5 Cr

▭ Confirmed ▭ To be discussed ▭ Considerations to be evaluated ✪ *Site visit conducted*

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[1] 2 acres post utilization for storm water drain, road etc. - confirmed by site visit with Surveyor Nagaraj

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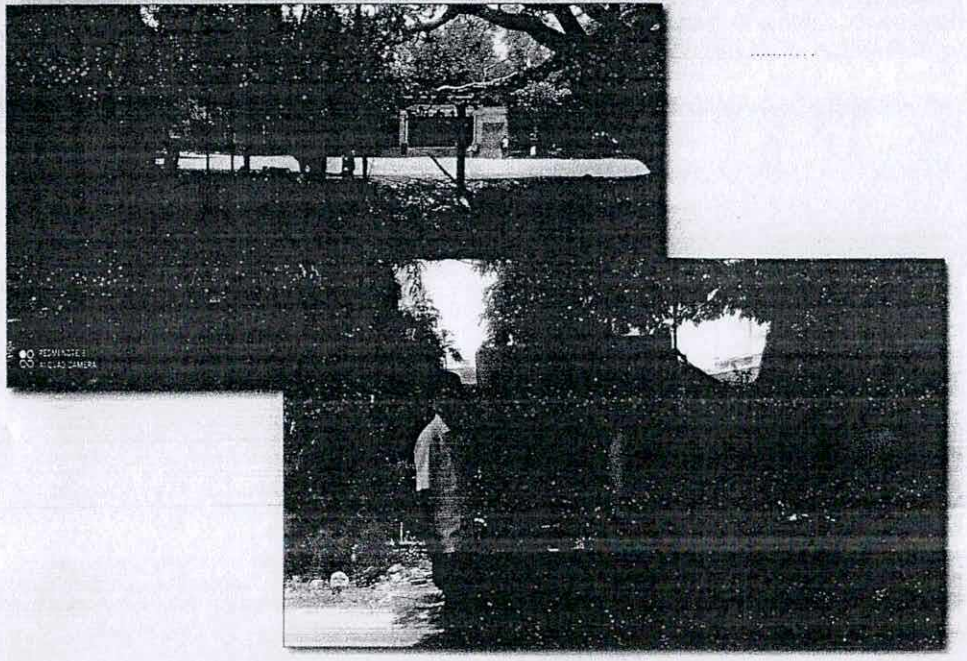
ಅಡಿಯಲ್ಲಿ ನೀಡಲಾದ ಪ್ರತಿ"

8 high potential land parcels identified after evaluating all vacant land parcels in estate records of size >1 acre

All vacant land parcels of size > 1 acre in BBMP Estate list evaluated (22)



Consultations conducted with 20+ stakeholders to collate details of land parcels

Estate and Land records	Survey team	Zonal officers
Mr. Preetham (DC, Estate)	Mr. Bore Goudru (Surveyor)	Mr. Digvijay (ZC, South)
Mr. Madan (AD, Estate)	Mr. Nagaraj (Surveyor)	Mr. Kotresh (AEE, Yediyur)
Ms. Shabana (ARO, Estate)	Mr. Rajesh (Surveyor)	Mr. Basavaraja (ARO, Mallasandra)
Mr. Umesh (DD, Land records)	Mr. Taufiq (Surveyor)	Ms. Jyothi (ARO, Yediyur)
Ms. Revathi (AD, Land records)	Mr. Madan (Surveyor)	Mr. Suresh (ARO, RR Nagar)
Mr. Chandru (AD, Land records)	Mr. Yogananda (Surveyor)	Mr. Shivshankar (ARO, Uttarahalli)
Mr. Satheesh (AD, Land records)		Mr. Rangaswamy (ARO, Kamakshipalya)

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9 High potential land parcels identified for monetization

---

1. Already occupied, or unsuitable for build

Sr. No. A

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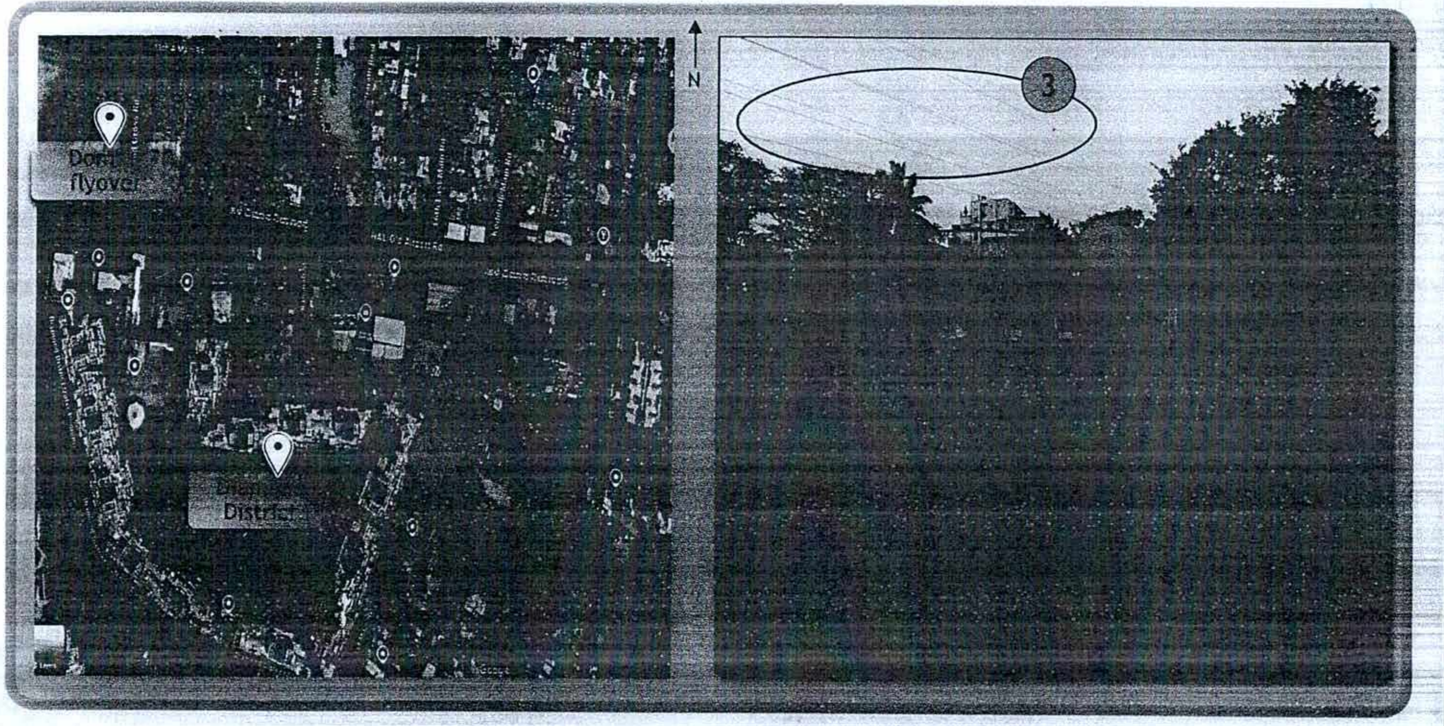
ಅಡಿಯಲ್ಲಿ ನೀಡಲಾದ ಪ್ರತಿ"

2-acre vacant land parcel in Domlur



2 acres

Residential Zone[1]

2.25 Max. FAR

INR 176 Cr guidance value (INR 88 Cr/ acre)

Key support required

Finalization of the exact shape and extent of the land parcel

Encroachment identified on the land parcel - to be cleared

High tension lines passing though the land parcel - to be cleared before leasing out

---

1. Land use category as per BDA Masterplan map

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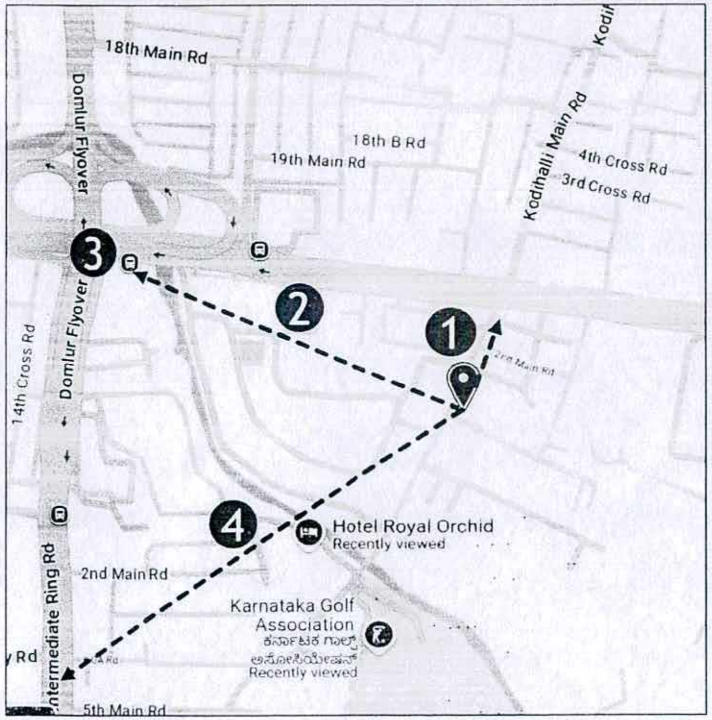
"ಮಾಹಿತಿ ಹಕ್ಕು ಕಾಯ್ದೆ-2005ರ
ಅಡಿಯಲ್ಲಿ ನೀಡಲಾದ ಪ್ರತಿ"

"ಮಾಹಿತಿ ಹಕ್ಕು ಅಧಿನಿಯಮ-2005ರ
ಅಡಿಯಲ್ಲಿ ನೀಡಿದ ಪ್ರತಿ"

Domlur site | Location with exceptional connectivity to major roads & transport hubs


18th Main Rd
Domlur Flyover
18th B Rd
19th Main Rd
Kodihalli Main Rd
Kodi
4th Cross Rd
3rd Cross Rd
3
2
1
2nd Main Rd
14th Cross Rd
Domlur Flyover
4
Hotel Royal Orchid
Recently viewed
2nd Main Rd
Karnataka Golf Association
ಕರ್ನಾಟಕ ಗಾಲ್ಫ್ ಅಸೋಸಿಯೇಷನ್
Recently viewed
Intermediate Ring Rd
y Rd
5th Main Rd

📍 Location of the plot

1. <100m from HAL Old Airport road
2. 500m from Domlur Flyover
3. 500m from Bus Stop
4. <1Km from Intermediate Ring Road

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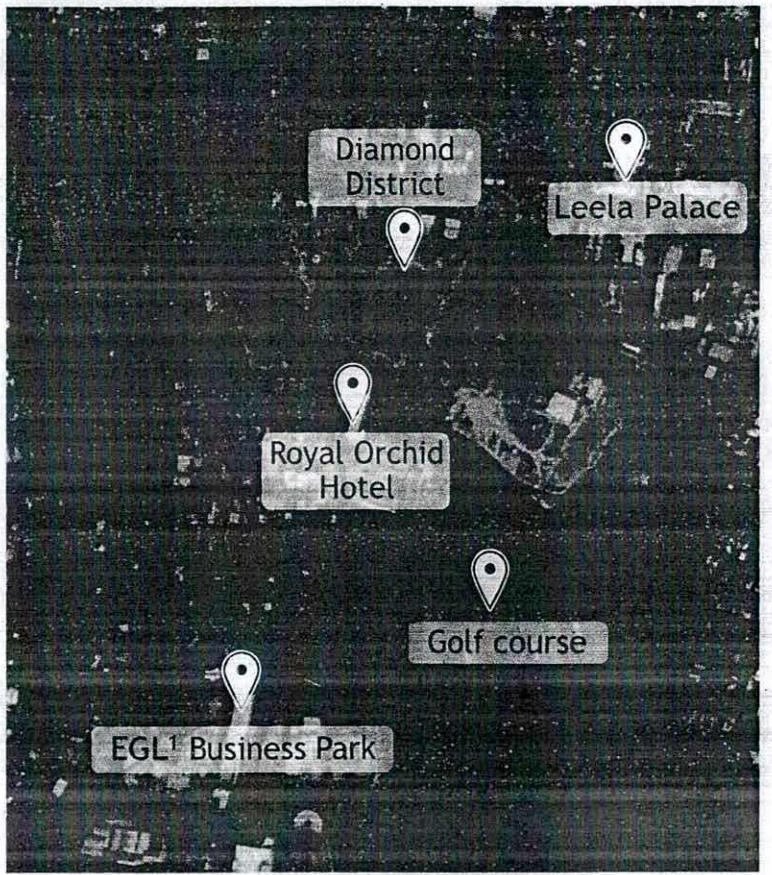
Domlur site | Location surrounded by high-end residential & commercial properties


Diamond District
Leela Palace
Royal Orchid Hotel
Golf course
EGL[1] Business Park

● *Location of the plot*

Luxury hotels/ Recreational facilities

<1 km	Leela Palace
0.5 km	Royal Orchid Hotel
0.5 km	Karnataka Golf Association

Residential Property

0.5 km	Diamond District

Office space

<0.5 km	Oxford Towers
1 km	EGL[1] Business Park

---

[1] Embassy Golf Links

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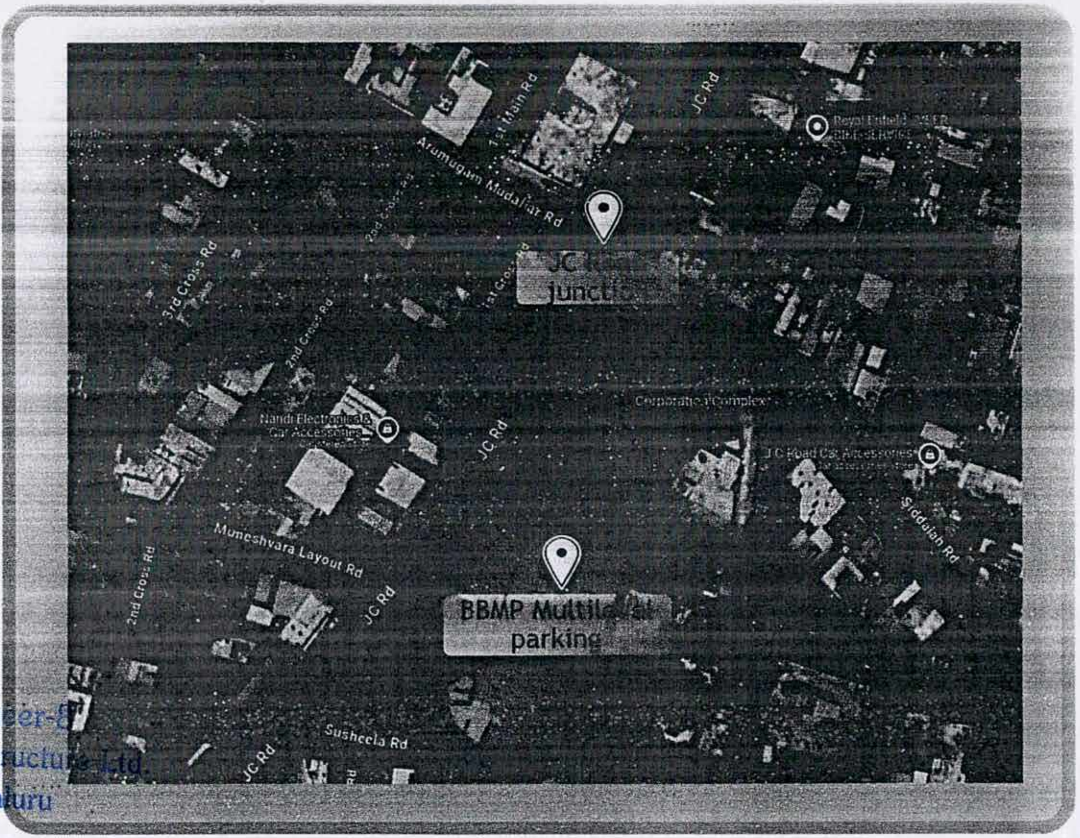
ಮಾಹಿತಿ ಹಕ್ಕು ಅಧಿನಿಯಮ-2005ರ
ಅಡಿಯಲ್ಲಿ ನೀಡಲಾದ ಮಾಹಿತಿ

Sr. No. B

For internal discussion only

0.4-acre vacant land parcel in Sudhamanagar (on JC Road)


JC Rd
1st Main Rd
Arumugam Mudaliar Rd
Royal Enfield
JC R... Juncti...
3rd Cross Rd
2nd Cross Rd
1st Cross Rd
Corporation Complex
Nandi Electronics & Car Accessories
JC Rd
J C Road Car Accessories
Muneshvara Layout Rd
Siddaiah Rd
BBMP Multilevel parking
2nd Cross Rd
JC Rd
Susheela Rd
JC Rd

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0.4 acres

Commercial Zone[1]

1.75 Max. FAR

INR 32 Cr guidance value (INR 87 Cr/ acre)

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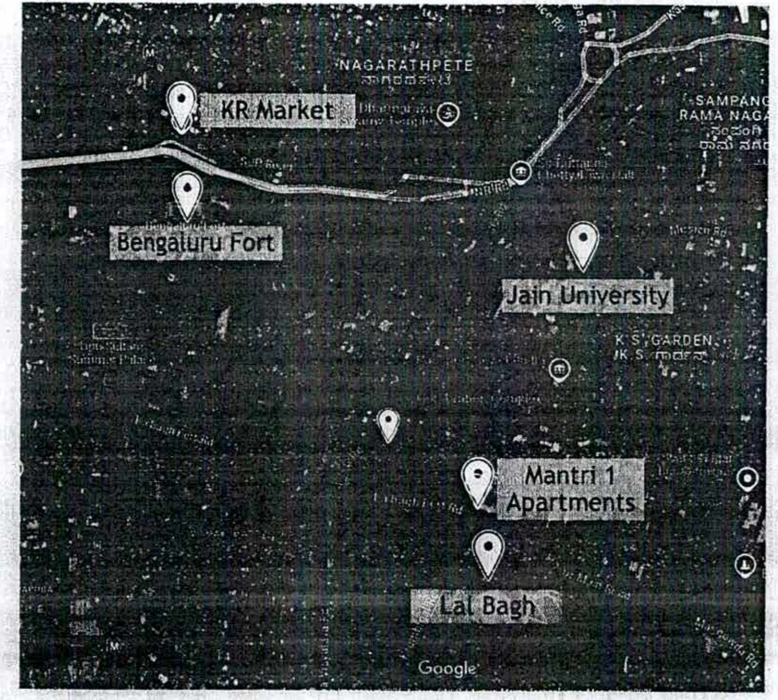
1. Land use category as per BDA Masterplan map

ಮಾಹಿತಿ -2005ರ
ಅಡಿಯಲ್ಲಿ ನೀಡಲಾಗ

JC Road site | Location surrounded by high-end residential & commercial properties


NAGARATHPETE
KR Market
SAMPANGI RAMA NAGAR
Bengaluru Fort
Jain University
K.S. GARDEN
Mantri 1 Apartments
Lal Bagh
Google

Location of the plot

Commercial properties

Next to	BBMP Multi-level car parking
1.2 km	Jain University
2 km	KR Market

Residential Property

1 km	Mantri 1 Apartments

Landmarks

1.4 km	Bengaluru Fort
2 km	Lal Bagh

1. Embassy Golf Links

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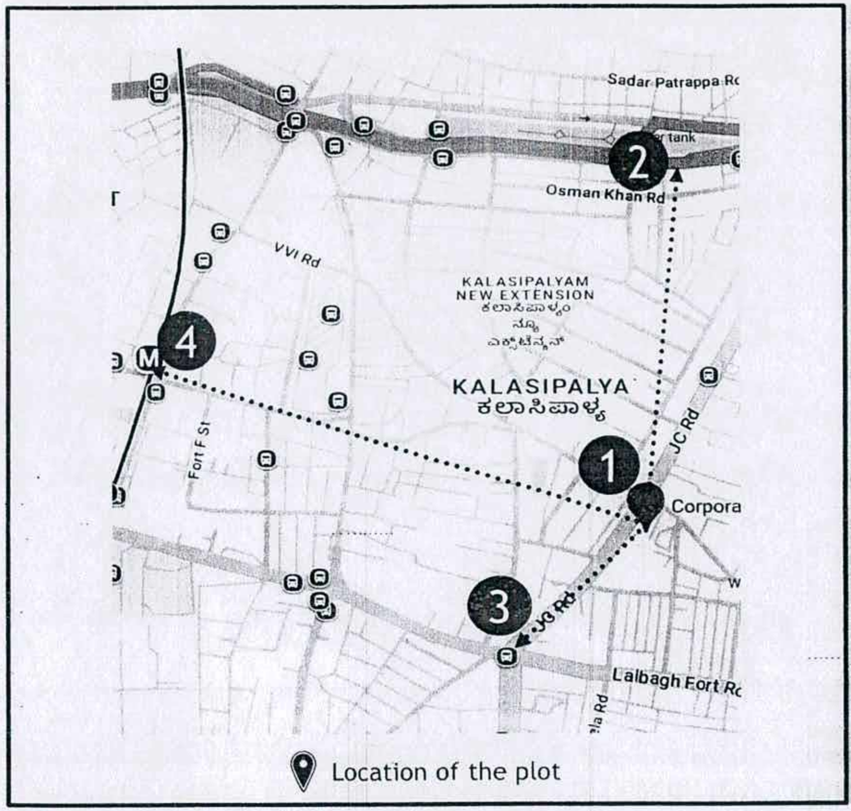
ಅಡಿಯಲ್ಲಿ ನೀಡಲಾದ ಪ್ರತಿ"

Sr. No. B

For internal discussion only

3.2

JC Road site | Location with exceptional connectivity to major roads & transport hubs


Sadar Patrappa Rd
tank
2
Osman Khan Rd
VVI Rd
KALASIPALYAM
NEW EXTENSION
ಕಲಾಸಿಪಾಳ್ಯಂ
ನ್ಯೂ
ಎಕ್ಸ್‌ಟೆನ್ಶನ್
KALASIPALYA
ಕಲಾಸಿಪಾಳ್ಯ
4
M
Fort F St
JC Rd
1
Corpora
3
JC Rd
Lalbagh Fort Rd
Location of the plot

- Located on JC Road 1
- <1Km from Mysore Road 2
- 500m from Minerva Circle 3
- 1km from KR Market Metro Station 4

"ಮಾಹಿತಿ ಹಕ್ಕು ಕಾಯ್ದೆ-2005ರ
ಅಡಿಯಲ್ಲಿ ನೀಡಲಾದ ಪ್ರತಿ"

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Sr. No. C

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0.5-acre vacant land parcel in Horamavu

"ಮಾಹಿತಿ ಹಕ್ಕು ಕಾಯ್ದೆ-2005ರ ಅಡಿಯಲ್ಲಿ ನೀಡಲಾದ ಪ್ರತಿ"

0.5 acres

Residential Zone[1]

2 Max. FAR

INR 11.5 Cr guidance value (INR 23 Cr/ acre)

Key support required

Fina[illegible] exact shape [illegible] of the land parcel

---

1. Land use category as per BDA Masterplan map

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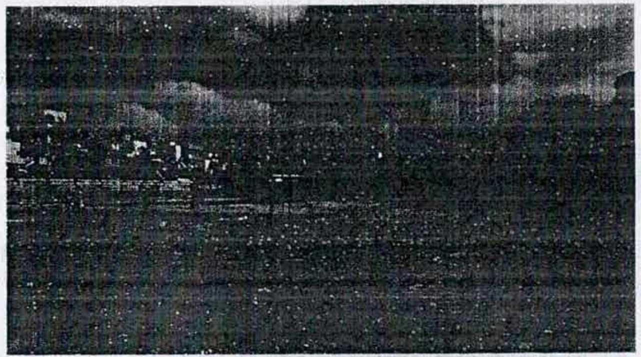
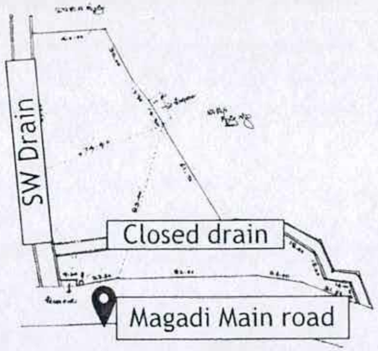
"ಮಾಹಿತಿ ಹಕ್ಕು ಕಾಯ್ದೆ-2005ರ
ಅಡಿಯಲ್ಲಿ ನೀಡಲಾದ ಪತಿ"

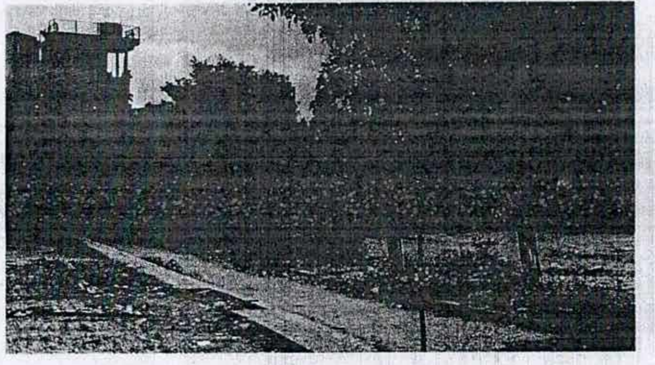
Sr. No. D

For internal discussion only

Vacant barren land on Magadi main road, Kamakshipalya




SW Drain
Closed drain
Magadi Main road



Kamakshi
Ramaiah Rd
ಮಾಗಡಿ ಮುಖ್ಯ ರಸ್ತೆ
Magadi Main road
Dhananjaya Palace

2 acres | **Residential (mixed)**[1] | **INR 81Cr guidance value** | **150m frontage** | **100 ft main road**

3.2

Potential asset classes

- Shopping complex
- Mixed use building with indoor sports, gym, QSR

Key considerations

☆ Previously a lake and being used by locals as a playground / exhibition ground

☆ Temporary settlements found in the ground

☆ Land with [illegible] potential given location [illegible] road in a commer[illegible]

☆ Lan[illegible] located [illegible]

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"ಮಾಹಿತಿ ಹಕ್ಕು ಕಾಯ್ದೆ-2005ರ
ಅಡಿಯಲ್ಲಿ ನೀಡಲಾದ ಪತಿ"

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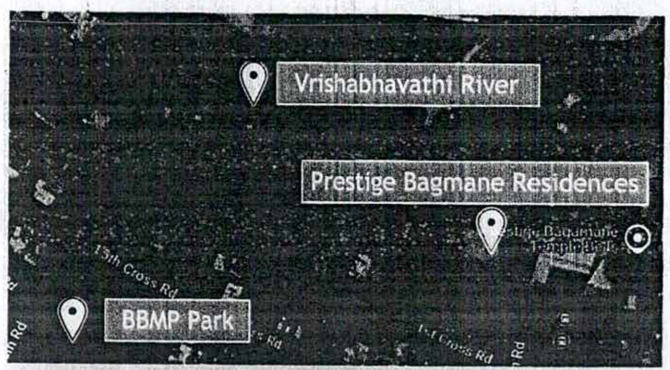
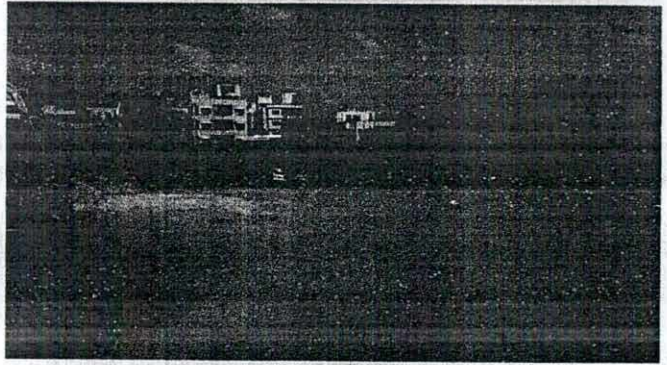
1. As per BDA masterplan

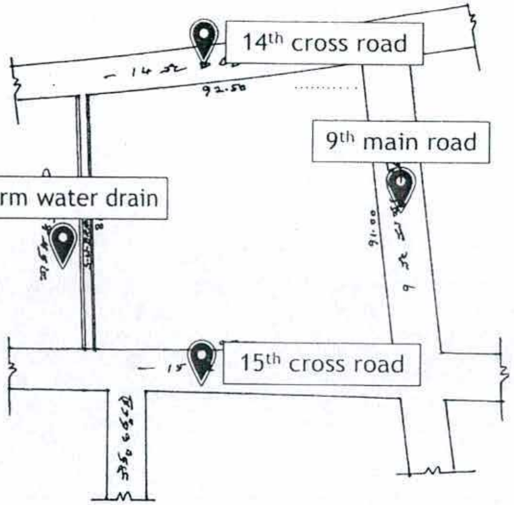
Sr. No. E

For internal discussion only

Vacant barren land in Ideal Homes Layout, RR Nagar


Vrishabhavathi River
Prestige Bagmane Residences
BBMP Park
15th Cross Rd
1st Cross Rd




14th cross road
9th main road
Storm water drain
15th cross road
92.50
91.00

"ಮಾಹಿತಿ ಹಕ್ಕು ಕಾಯ್ದೆ-2005ರ
ಅಡಿಯಲ್ಲಿ ನೀಡಲಾದ ಪ್ರತಿ"

1.9 acres | **Residential**[1] | **INR 78 Cr guidance value** | **90m frontage** | **40ft road**

Potential asset classes

- Shopping complex
- Mixed use building with indoor sports, gym, QSR

Key considerations

☆ Corner plot located in dense residential area

☆ Plot is [illegible] a developed BBMP park and is currently being used informally to park buses, etc.

☆ BBM [illegible]

---

1. As per BDA masterplan

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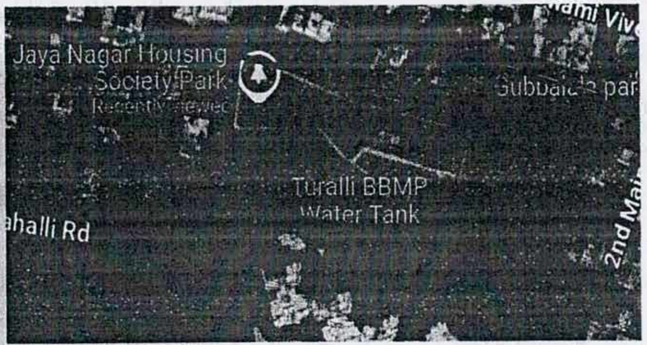
"ಮಾಹಿತಿ ಹಕ್ಕು ಕಾಯ್ದೆ-2005ರ
ಅಡಿಯಲ್ಲಿ ನೀಡಲಾದ ಪ್ರತಿ"

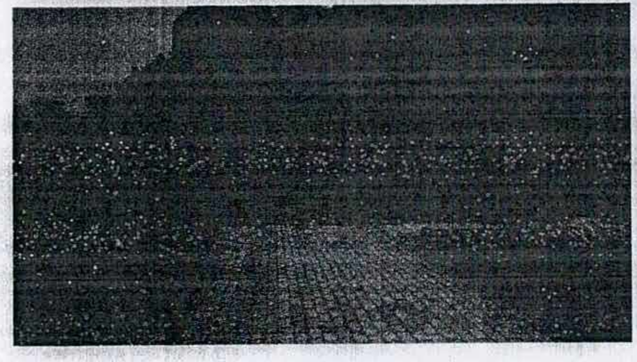
[illegible]-2005[illegible]

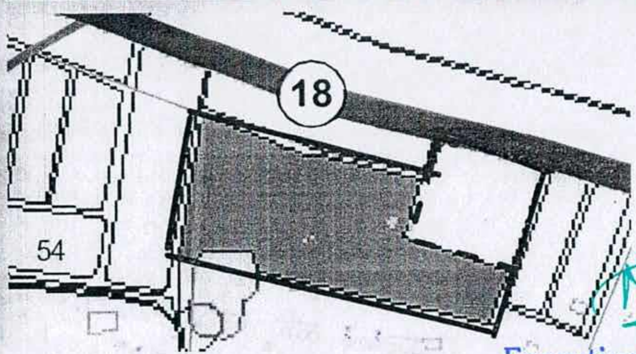
Sr. No. F

For internal discussion only

Vacant land in acre Jayanagar Housing Society Park in Uttarahalli, Bommanahalli


Jaya Nagar Housing Society Park
Recently viewed
Subbaiah park
Turalli BBMP Water Tank
halli Rd
2nd Main
ami Viv





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1 acre	Residential[1]	INR 22 Cr guidance value	80m frontage	40ft road

[illegible]

1. As per BDA masterplan

Potential asset classes

- Mixed use building with shops, indoor sports, QSR

☆ Only 1 portion of the park developed with pavements and gazebos

☆ ~1 acre [illegible] total area not yet [illegible] and is zoned [illegible] in the master[illegible]

☆ Multiple high-rise residential properties surrounding the area

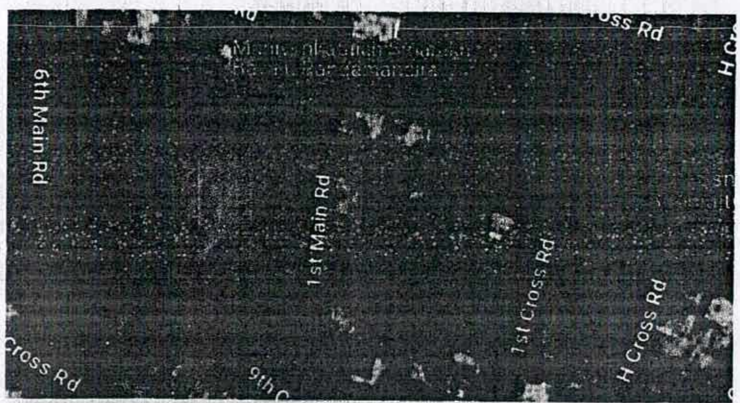
☆ [illegible]

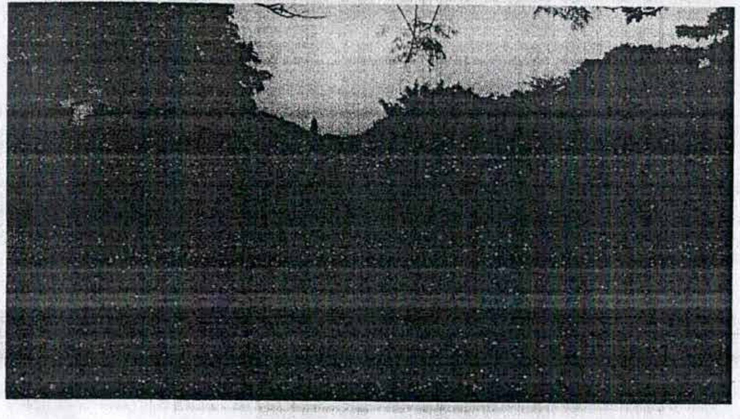
Sr. No. G

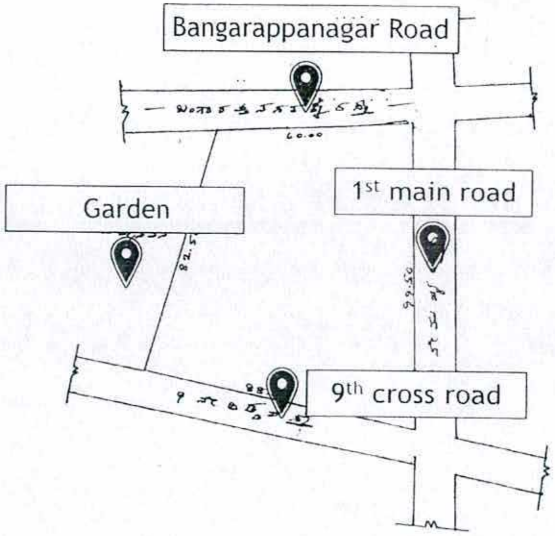
For internal discussion only

Munivenkataiah Rangamandir, RR Nagar

[illegible]


6th Main Rd
1st Main Rd
1st Cross Rd
H Cross Rd
Cross Rd
9th C
oss Rd




Bangarappanagar Road
Garden
1st main road
9th cross road
60.00
82.5
99.50

Potential asset classes

- Mixed use building with convention hall, indoor sports and eateries

Key considerations

☆ Currently being used by local community as an open-air theatre

☆ [illegible]

1.7 acres

Residential[1]

INR 54 Cr guidance value

90m frontage

40ft road

---

[1] As per BDA masterplan

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ಅಡಿಯಲ್ಲಿ ನೀಡಲಾದ ಪ್ರತಿ"

[illegible]

Sr. No. H

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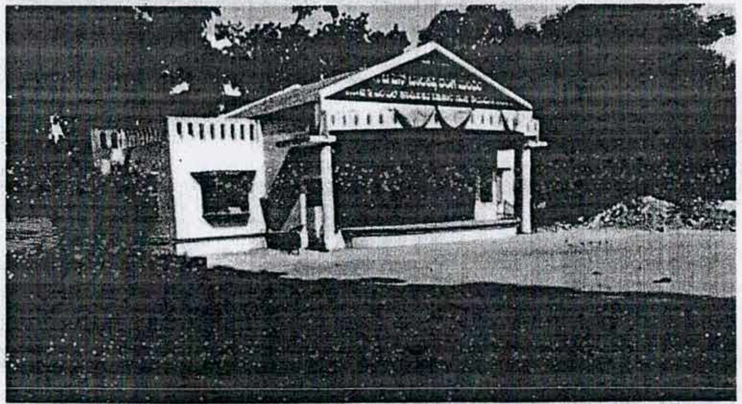
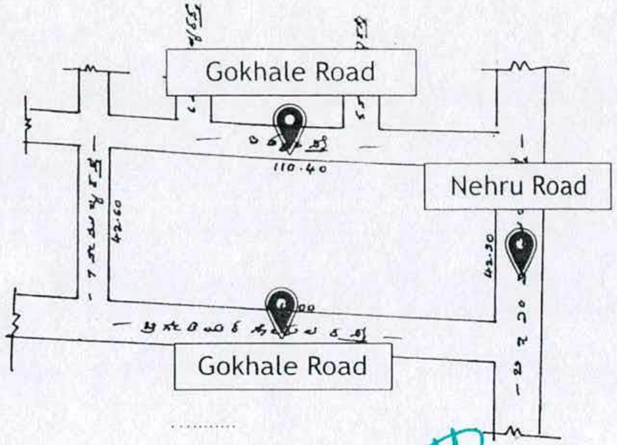
3.2

Balakrishna Rangamandira, RR Nagar

Nehru Rd
Gokhale Rd
Ayur
ali and sri...
G




Gokhale Road
110.40
Nehru Road
42.30
Gokhale Road

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Potential asset classes

- Mixed use buildings with convention hall, indoor sports and eateries

Key considerations

☆ Currently being used by local community as an open-air theatre

☆ [illegible]

1.15 acres | **Residential**[1] | **INR 51 Cr guidance value** | **100m frontage** | **40ft road**

[1] As per BDA masterplan

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Proposed framework to identify suitable asset classes for land parcels

Plot Size	Road Width	Micro-Market Type	Frontage[1]	Suggested Asset Types
2500 - 5000 sq ft	30ft+	Residential	Low	Dark store/ gym/ wellness studio
2500 - 5000 sq ft	30ft+	Commercial	Low	Compact retail outlet
5000 - 10000 sq ft	30ft+	Residential	Low	Co-living/ hostel
			High	Retail outlet (e.g. supermarkets)
5000 - 10000 sq ft	30ft+	Commercial	Low	Office/ co-working space/ retail outlet
10000 sq ft - 1 acre	30ft+	Residential	Low	Community center/ Sports complex/ Mid-range hotel/ E-commerce warehouse
10000 sq ft - 1 acre	30ft+	Commercial	Low	Compact office space (for banks/ co-working/ salons)/ E-commerce warehouse
10000 sq ft - 1 acre	40ft+	Commercial	High	Mixed use with retail, QSR[2] (Small shopping complex)
1 acre to 2 acres	30ft+	Residential	Low	Mixed-use (Co-living + Retail)/ Sports complex/ Convention center
			High	Mixed use with retail and QSR
1 acre to 2 acres	40ft+	Commercial	High	Office complex/ Hotel / Mixed use with retail and QSR

Additional filters to be evaluated

- Clear ownership
- No storm water drain passing through the plot
- No high-voltage lines passing through the plot

1. High frontage: > 30m; Low frontage: < 30m 2. QSR: Quick Service Restaurant

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Land Lease model to be explored for monetization

− Degree of government control +

Model	PPP (Land lease)	PPP (Joint Dev. model)	PPP (SPV)	Pure EPC model
Capital structure	Govt: Provides land Private: Development cost	Govt: Provides Land Private: Development cost, and returns a portion of Build up area/revenue to govt	Govt: Land as equity Private: Development cost	100% Government, no private involvement
Return to govt.	• Upfront Premium • Land lease rental	• Area Share/Revenue share	• SPV Dividends (Revenue share based on equity stake)	• Operations revenue
Recovery model for Private developer	• Commercial revenue	• Commercial revenue corresponding to developer's share	• SPV Dividends (Revenue share based on equity stake)	• Not applicable
Ownership	Reverts to Govt after concession	Reverts to Govt after concession	Stays with the SPV	Always with the govt
Construction risk	Private player	Private player	SPV (Shared)	Govt
Revenue risk	Private player	Shared	SPV (Shared)	Govt
	Finalized			

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Proposed transaction structure for redevelopment of JC Road and Domlur via land lease model (1/2)

Transaction details	Proposed structure for BBMP
Development type	• Commercial
Asset classes permissible	• Shopping complex/ office space/ hotel/ restaurant/ quick-commerce dark stores/e-commerce warehouse/ wellness studio/ gym/ sports complex/ entertainment zone/ theatre/ hostel or co-living
Asset classes not allowed	• Diesel/ Petrol/ CNG/ PNG/ LPG sale outlets, liquor sale outlets
Technical eligibility criteria	• Developed or constructed commercial complexes having a cumulative built-up area of at least 2 times the maximum built-up area of the plot which should have received the occupancy certificate at least 12 months preceding the bid due date
Financial eligibility criteria	• **Average turnover for last 3 FY to be greater than or equal to the project cost**[1] for the maximum built-up area • **Net worth at the end of preceding FY to be greater than or equal to the project cost**[1] for the maximum built-up area
Evaluation process	• **H1 (Highest bid of the bidding parameter)**
Bid parameters	• Refundable one-time deposit (OTD)
Duration of the Lease	• 30 years

1. Estimated project cost for Domlur plot: INR 70 Cr, JC Road: INR 12 Cr; Estimated by considering a cost INR 4500 per sq ft for maximum built-up area
Note: Transaction structure prepared basis RFPs for Sabarmati Riverfront Development, CA site allocation by BDA, BSBP development by KSIIDC

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Proposed transaction structure for redevelopment of JC Road and Domlur via land lease model (2/2)

Transaction details	Proposed structure for BBMP
Lease extension	• The lessee can request for **1 extension in writing subject to approval by BBMP** • Monthly lease amount will be **min (15% inc. on last lease amount, per policy)** • **100% of min. OTD**[1] (10% of the latest guidance value)
Annual Lease Rent	• 1.8% of Guidance value
Annual escalation	• **10% every 3 years** (approx. 3.32% annual increase)
Reserve Bid	• **50% of guidance value of the plot**
Bid Security (EMD)	• **10% of reserve bid**
Performance Security	• **10% of final bid for the construction period (2 years)**
Minimum Obligation	• **50% of FSI to be built over 5 years** else land to be returned
Financial Terms and Payment Schedule	• **OTD to be paid within 15 days after LOA** • **Annual** rent to be paid

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1. One Time Deposit
2. Note: Transaction structure prepared basis RFPs for Sabarmati Riverfront Development, CA site allocation by BDA, BSBP development by KSIIDC

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Summary of progress on Asset Monetization

1. **Comprehensive assessment of BBMP-owned assets:** Overview of the 2,500+ assets across key categories and identification of top 850 assets with monetization potential
2. **Monetization of vacant lands:** Identified and evaluated 22+ BBMP-owned vacant land parcels (≥1 acre), and developed leasing models
3. **Operating model for Auditoriums:** Identified and benchmarked BBMP-owned auditoriums and proposed a revised operating model to improve utilization and revenue potential
4. **Operating model for Kalyana Mandapas:** Identified and benchmarked BBMP-owned kalyana mandapas with similar services by other ULBs to propose revised operating model to improve citizen outcome
5. **Operating model for sports facility:** Proposed a monetization model for an existing padel court facility owned by BBMP in Sadashivnagar

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ಅಡಿಯಲ್ಲಿ ನೀಡಲಾಗಿದೆ

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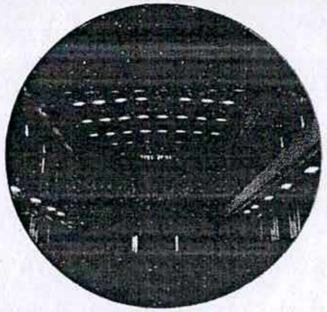
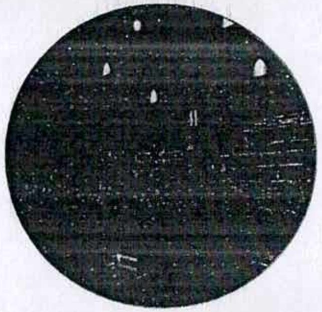
3.2

2 operating auditoriums proposed for operation via private player - additional auditoriums being identified





	Sir Puttanna Chetty Townhall	Ashwath Kalabhavana
Operational Status	Operational	Tender Expired
Zone	South	South
Ward	Sudhamanagar	Basavanagudi
Seating capacity	700	200
Rental rate	INR 30,000 (Half day); INR 70,000 (Full Day)	INR 10,000 per event[1]
Managed by	BBMP	Katte Sathya Foundation[1]
Annual Revenue	INR 45,00,000	N/A

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found through research and field visits

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Potential for BBMP to maximize revenue by updating pricing & enhancing utilization

	Ranga-shankara	Ashwath Kalabhavana	KH Kala Soudha	Good Shepherd Auditorium	Sir Puttanna Chetty Townhall	Viveka Auditorium	Alliance Française de Bangalore
Seating capacity	320	200	300	1000	700	360	250
Booking process	Online	Offline	Offline	Offline	Offline	Online	Offline
Pricing model	Tiered	Flat	Flat	Flat	Tiered	Tiered	Tiered
Tiering basis	Day type	-	-	-	Slot (Half/Full)	Event type, Day type	Event type, Day type
Rental rate	INR 2,500-5,000/event (INR 0.65-1/seat/hr) + 20% ticket revenue	INR 10,000 (INR 4/seat/hr)	INR 28,910 (INR 8/seat/hr)	INR 2.5L/event (INR 21/seat/hr)	INR 30,000-70,000/event (INR 8/seat/hr)	INR 30,000-50,000/event (INR 7-12/seat/hr)	INR 15,000-39,000/event (INR 5-13/seat/hr)
Bookings/ month	~26	N/A	N/A	15	6	N/A	N/A

Private Auditoriums in Bangalore BBMP-owned Auditoriums

Key comparisons between BBMP & private auditoriums

① Higher occupancy (26 vs. 6 events per month)

② Higher visibility due to online bookings

③ [illegible] seat rates generating better revenue

④ Tiered pricing models aligning rates with demand patterns

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2 models explored for auditorium operations - revenue sharing with min. guarantee model proposed to ensure stable revenue & minimal operational burden

BBMP manages and operates the auditoriums independently	BBMP partners with a private player on a revenue sharing with min. guarantee model
● **Full control over bookings, pricing, and usage rules**	● Ensures **predictable and stable revenue for BBMP**
● BBMP must **generate its own demand** (marketing, outreach, seasonal targeting)	● **Reduced revenue leakage** with full revenue coming to BBMP directly
● **Intensive operational requirements** (maintenance, staffing, grievance redressal)	● BBMP benefits from any **upside in the private player's performance**
● Higher **potential for revenue leakage** due to informal bookings	● **No operational or maintenance burden on BBMP**
	● BBMP is vulnerable to **post-tender misuse** (e.g., bookings after expiry of tender)

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☐ Proposed monetization model-further deep dive ahead

Proposed for BBMP

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Proposed operating model for auditoriums

- **Private operator would be responsible for the day-to-day operations and maintenance** along with the required marketing of the auditorium

- **BBMP to develop a centralized booking portal** for all its auditoriums and kalyana mandapas and **set fixed rental rates** for end users

- **Booking fees to be collected directly by BBMP; BBMP to retain 10% as its share before remitting** the balance to the private operator

- In addition, **operator to pay BBMP a fixed annual fee** – determined through a competitive bidding process–as the primary bid parameter

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Tiered pricing model proposed to optimize utilization and maximize revenue

Sir Puttanna Chetty Town Hall

Day Type	Current prices		Proposed prices	
	Commercial	Social	Commercial	Social
Weekday	INR 70,000		INR 85,000	INR 70,000
Weekend			INR 1,00,000	INR 80,000

Dr. C Ashwath Kalabhavana

Day Type	Current prices		Proposed prices	
	Commercial	Social	Commercial	Social
Weekday	INR 10,000		INR 10,000	INR 10,000
Weekend			INR 15,000	INR 15,000

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ಅಡಿಯಲ್ಲಿ ನೀಡಲಾಗಿದೆ

9/18 community halls from estate records identified- 5 operational, 4 non-operational

#	Zone	Ward Name	Asset Name	Current Status
1	East	Sagayapuram	Dr. B.R. Ambedkar Samudaya Bhavan	Operational
2	East	Gowthampura	Gowthampura Community Hall	Operational
3	South	Padmanabhanagara	Community Hall	Operational
4	South	Basavanagudi	BBMP Samudaya Bhavana	Operational
5	West	Subramanyanagar	Community Hall, Library, Rajajinagar	Operational
6	South	Koramangala	BBMP Community Hall	Non-Operational
7	South	Koramangala	Ambedkar Bhavana	Non-Operational
8	South	Koramangala	BBMP Ambedkar Bhavana	Non-Operational
9	South	Koramangala	BBMP Ambedkar Bhavana	Non-Operational
10	Bommanahalli	Bilekahalli	Roopena Agrahara Public Community Hall	Yet to be Identified
11	Bommanahalli	Vasantapura	Community hall, Gudde Colony	Yet to be Identified
12	Dasarahalli	Shettyhalli	Community Hall	Yet to be Identified
13	R R Nagar	Yeshwanthpura	BBMP Samudaya Bhavan	Yet to be Identified
14	West	Dr. Rajkumar Ward	Community Hall and Temple	Yet to be Identified
15	West	Maruti Mandira	Maruti Mandira and Buildings	Yet to be Identified
16	West	Padarayanapura	Community Hall, Dayananda Seva Samaja	Yet to be Identified
17	West	Jagajeevanram Nagar	Community Hall, Devaraju Arasunagar	Yet to be Identified
18	West	Kadu Malleshwaram	BBMP Owned Community Hall	Yet to be Identified

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Current operating model

- [illegible] offline [illegible] offices
- [illegible] ate [illegible] per hall
- [illegible] on- [illegible] and

Most other ULBs operate their own booking platforms for community halls with a tiered pricing model

	Bangalore	Hyderabad	Delhi	Pune	Ahmedabad
Booking process	Offline	Online	Online	Online	Online
Pricing model	Flat pricing	Tiered pricing	Tiered pricing	Tiered pricing	Flat pricing
Tiering basis	N/A	Area of the hall (in sq.m)	Type of events (social, non-commercial, commercial)	Time slot	N/A
Booking portal handled by	-	Greater Hyderabad Municipal Corporation	New Delhi Municipal Council	Pune Municipal Corporation	Ahmedabad Municipal Corporation
O&M managed by	Private Contractor	Private Contractor	Private Contractor	Private Contractor	Private Contractor

Deep-dive available

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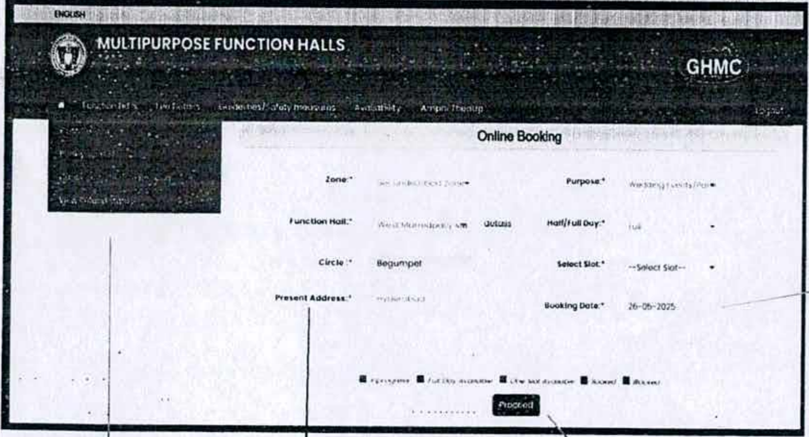
3.2

Case study | GHMC operates a digital portal with a tiered pricing model for seamless hall bookings

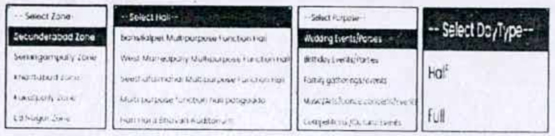
GHMC's digital booking portal with integrated payment gateway


ENGLISH
MULTIPURPOSE FUNCTION HALLS
GHMC
Proceed

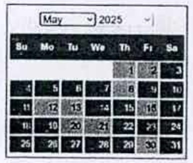
Online Booking

Zone:* Secunderabad Zone
Purpose:* Wedding Events/Parties
Function Hall:* West Marredpally Multipurpose Function Hall
Half/Full Day:* Full
Circle:* Begumpet
Select Slot:* --Select Slot--
Present Address:* Hyderabad
Booking Date:* 26-05-2025

① Drop-down options to pick zone, function hall, purpose and slots


-- Select Zone --
Secunderabad Zone
Serilingampally Zone
Khairatabad Zone
Kukatpally Zone
LB Nagar Zone
-- Select Hall --
Bansilalpet Multipurpose Function Hall
West Marredpally Multipurpose Function Hall
Seethafalmandi Multipurpose Function Hall
Hari Hara Kala Bhavan Auditorium
--Select Purpose--
Wedding Events/Parties
Birthday Events/Parties
Family gatherings/events
Competitions/Cultural events
-- Select Day/Type--
Half
Full

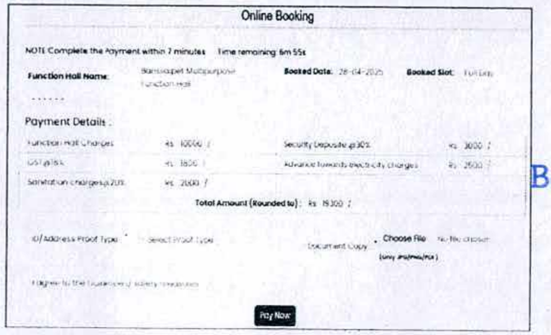
② Booking date to be chosen from a calendar highlighting the real-time availability


May
2025
Su
Mo
Tu
We
Th
Fr
Sa

Options to make the booking, cancel/ reschedule bookings, and view refund status

③ Manual entry for the parameter- present address

Proceed button displays the payment details and provides the option to pay


Choose File
Pay Now

Online Booking

NOTE Complete the Payment within 7 minutes Time remaining: 6m 55s

Function Hall Name: Bansilalpet Multipurpose Function Hall
Booked Date: 28-04-2025
Booked Slot: Full Day

Payment Details :

Function Hall Charges	Rs. 10000 /-	Security Deposite @30%	Rs. 3000 /-
GST @18%	Rs. 1800 /-	Advance towards electricity charges	Rs. 2500 /-
Sanitation charges@20%	Rs. 2000 /-		

Total Amount (Rounded to) : Rs. 19300 /-

ID/Address Proof Type * --Select Proof Type
Document Copy * No file chosen (only jpg/png/pdf)

https://bookfunctionhalls.ghmc.gov.in/

Tiered pricing model

- GHMC charges INR **6 per sq. m**
- Area-based tiering model ensures **proportional pricing for larger venue**
- **Transparent and standardized** approach

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Proposed operating model for kalyana mandapas

The primary objective of the model for Kalyana Mandapas should be to ***serve the public*** *by providing an* ***affordable and transparently managed facility***

- **BBMP to develop a centralized booking portal** for all its kalyana mandapas and auditoriums and **set tiered rental rates** for end users
- **Day-to-day O&M to be managed by a private contractor for a fixed payment from BBMP -** to be onboarded via an L1 tendering process
- **All revenue from booking of venues to be retained by BBMP**

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Proposed integrated booking portal for BBMP to act as a one-stop digital solution for citizens

Digital booking platform	- Built and maintained by BBMP - Centralized portal displaying real-time availability for all community halls - Integrated online payment gateway

User login & dashboard
Enable mobile/OTP-based login with a dashboard showing bookings, receipts, refunds, etc.

Real-time hall availability calendar
Display live booking slots for each hall zone and ward-wise with color-coded availability

Pricing
Display hall-wise rates based on event type and day with auto-calculated totals

Integrated online payment gateway
Allow secure UPI/card/net banking payments with instant e-receipts

Booking confirmation
Send booking confirmations (acknowledgement receipt with QR code) via SMS/email

Implementation approach

① [illegible] d nation [illegible] P's IT cell

② [illegible] he [illegible] ventory [illegible]

③ [illegible]

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ಅಡಿಯಲ್ಲಿ ನೀಡಲಾದ ಪ್ರತಿ"

Critical to leverage security & marketing efforts to prevent revenue leakage

1. **Mandatory acknowledgement receipt / booking ID**
   Access to be granted only upon showing system-generated receipt to prevent unauthorized entry (model similar to BBMP crematorium)

2. **Assign hall-level managers or attendants**
   Dedicated BBMP staff member to verify bookings and oversee handovers and cleanup, particularly on weekends and busy event days

3. **QR-based booking verification**
   BBMP staff to scan the QR-based receipt to verify bookings, while the system auto-logs all transactions and access in real time

4. **Encourage public to use online booking**
   QR codes and "Book Online Only" signage to be set up at halls and BBMP offices to guide citizens to book online

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Summary of progress on Asset Monetization

1. Comprehensive assessment of BBMP-owned assets: Overview of the 2,500+ assets across key categories and identification of top 850 assets with monetization potential

2. Monetization of vacant lands: Identified and evaluated 22+ BBMP-owned vacant land parcels (≥1 acre), and developed leasing models

3. Operating model for Auditoriums: Identified and benchmarked BBMP-owned auditoriums and proposed a revised operating model to improve utilization and revenue potential

4. Operating model for Kalyana Mandapas: Identified and benchmarked BBMP-owned kalyana mandapas with similar services by other ULBs to propose revised operating model to improve citizen outcome

5. **Operating model for sports facility:** Proposed a monetization model for an existing padel court facility owned by BBMP in Sadashivnagar

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Proposed operating model for padel court in Sadashivnagar

Padel court in Tamarind Tree Park, Sadashivnagar

PADEL OPEN TOUR
INDIA

200 sq m | **INR 5 Cr guidance value**

Court currently **generating INR 18 - 20L/ annum - collected by Indian Padel Federation**

Proposed transaction structure

Transaction details	Proposed model for BBMP
Scope	• Relaying of turf and other renovation • Operation and maintenance including user management
Evaluation process	• H1
Bid parameter	• Refundable one-time deposit
Reserve bid	• 5% of guidance value (INR 25L)
Annual payment	• 1.8% of guidance value (INR 9.6L)
Duration	• 5 years
Technical eligibility criteria	• Bidder should have O&M experience for at least 1 sports facility of at least 200 sq m
Financial eligibility criteria	• Bidder should have an average turnover of at least INR 10L over last 3 FY

Draft tender documents submitted to Estates Department, BBMP

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Key next steps for monetization of identified priority assets

Asset type	Key Immediate Actions
Domlur parcel	• Floating of tender for inviting bidders - *Approval required for utilization of the land parcels for monetization via land leasing*
Sudhamanagar (JC Road) Parcel	
Horamavu land parcel	• Finalization of exact extent and shape of the land parcel and approval for utilization of the land parcels for monetization via land leasing
Auditoriums and kalyana mandapas	• Creation of an exhaustive inventory of all auditoriums and kalyana mandapas owned by BBMP • Floating of tender for onboarding private operator for auditoriums • Development of online booking portal for auditoriums and kalyana mandapas • *Approval required for the proposed operating models*
Padel Court	• Tender to be floated by Estates department for inviting bidders

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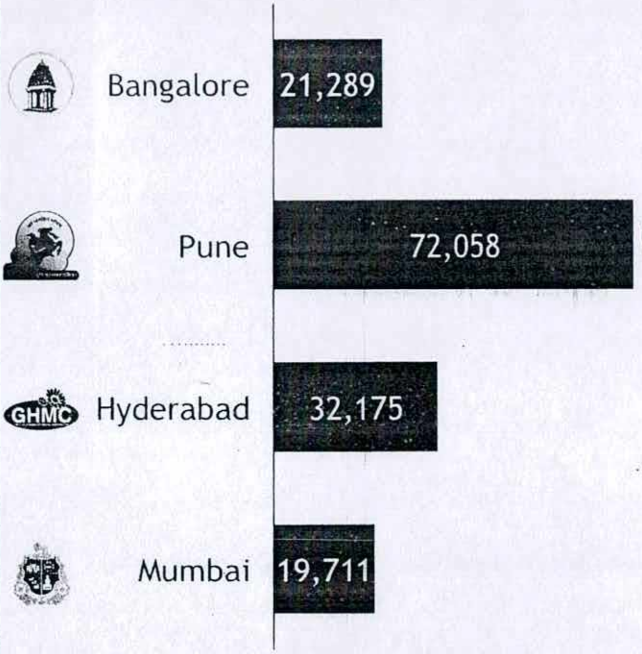
Property tax per property lower in Bengaluru compared to peer cities | Three strategic pillars explored for revenue enhancement

Adjusted Residential property tax for a similar property INR[1]



① **Enhancing rate structure & valuation method**

- ① Scientific approach for tax rate and valuation method revision
- ② Additional Cesses/Taxes:
  - 2a Standard for all
  - 2b Differential tax based on infra. Development

Deep Dive Ahead ✓

② **Increasing Tax collection (Clearing Arrears)**

(Approx. 2.5 lakh out of 20 lakh registered properties not paying taxes)

③ **Widening Tax Net**

(Approx. 5 Lakh properties in BBMP region still not in tax net)

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[1] Like-to-like Property Details assumed for comparative analysis: Area = 1,200 sqft, RCC1 structure, in Zone B (2nd most premium), FSI = 2, tenanted, 10 years old, monthly rental value is INR 4/sqft/month (14 for commercial), and Guidance value INR 7,000/sqft; Adjusted for water tax, sewerage tax, fire tax, education tax, tree cess, professional tax and vehicle tax

Mum, Pune, Hyd. and Ahmd. generating 40%+ of property tax revenues via additional cess/taxes

Like-to-like Property Details assumed for comparative analysis: Area = 1,200 sqft, RCC[1] structure, in Zone B (2nd most premium), FSI = 2, tenanted, 10 years old, monthly rental value is INR 4/sqft/month (14 for commercial), and Guidance value INR 7,000/sqft

Residential

INR	Blr.	Mumbai	Pune	Hyd.	Ahmd.
Core Property Tax	16,896	8,778	40,176	16,416	3,924
Other taxes/ cess	4,393	53,067	43,546	19,043	2,747
Total Tax liability[2]	**21,289**	**61,845**	**83,722**	**35,459**	**6,671**
Total (Excl. water, sewerage)	**21,289**	**19,711**	**72,058**	**32,175**	**5,494**
Tax / square feet	*8.9*	*8.2*	*30.0*	*13.4*	*2.3*
% of other taxes	21%	55%	44%	49%	29%

Commercial

INR	Blr.	Mumbai	Pune	Hyd.	Ahmd.
Core Property Tax	73,920	34,474	1,40,616	57,456	82,406
Other taxes/ cess	19,219	2,08,118	1,52,410	66,649	74,165
Total Tax liability[2]	**93,139**	**2,42,592**	**2,93,026**	**1,24,105**	**1,56,571**
Total (Excl. water, sewerage)	**93,139**	**77,246**	**2,52,202**	**1,12,614**	**1,23,609**
Tax / square feet	*38.01*	*32.2*	*105.1*	*46.9*	*51.5*
% of other taxes	21%	55%	44%	49%	33%

- Bangalore generates only 20% of its revenue from additional cesses/taxes, vs 40%+ for other Municipal Corp.[2]
- Bangalore tax liability is slightly lesser as compared to residential and commercial properties in Hyderabad, Pune, Ahmedabad
- Pune imposes a higher General Tax of up to 39% vs BBMP's rate is capped at 25%, both following a similar methodology

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[1] Reinforced Cement Concrete

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Residential Property Tax | Mum, Pune & Hyd. outperform Blr. in property tax collection from similar properties owing to additional taxes & higher rates

	Valuation (INR)[2]	**84,480** (ARV)		**79,80,000** (CVS)		**1,03,680** (ARV)		**1,09,440** (ARV)		-	
		%	INR	%	INR	%	INR	%	INR	%	INR
		Bangalore		**Mumbai**		**Pune**		**Hyderabad**		**Ahmedabad**	
1	General Tax %	20%	16,896	0.11%	8,778	38.75%	40,176	15%	16,416		3,924
2	Water Tax %		-	0.253%	20,189	7.5%	7,776		-	30%	1,177[3]
3	Water Benefit Tax %		-	0.069%	5,506	3.75%	3,888		-		-
4	Sewerage Tax %		-	0.163%	13,007		-		-		-
5	Sewerage Benefit Tax %		-	0.043%	3,431		-		-		-
6	Drainage Tax %		-		-		-	3%	3,283		-
7	Conservancy Tax %		-		-		-	9%	9,850	30%	1,177[3]
8	Municipal Education Cess %		-	0.04%	3,192	1.75%	1,814		-	10%	392[3]
9	State Education Cess %		-	0.035%	2,793		-		-		-
10	Employment Guarantee Cess %		-	0.01%	798		-		-		-
11	Tree Cess %		-	0.002%	160	1%	1,037		-		-
12	Street Tax %		-	0.05%	3,990		-		-		-
13	Fire Cess %		-		-	1.5%	1,555		-		-
14	Lighting Tax %		-		-		-	3%	3,283		-
15	Cleaning Tax %		-		-	17.5%	18,144		-		-
16	Path Tax %		-		-	9%	9,331		-		-
17	Health Cess (% of General Tax)	15%	2,534		-		-		-		-
18	Beggary Cess (% of General Tax)	3%	507		-		-		-		-
19	Urban Infra. Cess (% General Tax)	2%	338		-		-		-		-
20	Library Cess (% of General Tax)	6%	1,014		-		-	8%	2,627		-
	Total Tax Liability (INR)		**21,289**		**61,845**		**83,722**		**35,459**		**6,671**
	General Tax : Other taxes		79:21		14:86		48:52		46:54		59:41
	General Tax : Other tax (excl. 2-6)		79:21		45:55		56:44		51:49		71:29

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- Other municipal corporations levy 20 additional kind of cesses and taxes, including Education Cess, Tree Cess, Lighting & Conservancy Tax
- Bangalore generates only 20% of its revenue from additional cesses/taxes, whereas other municipal corporations earn 40%+ (excluding sewerage, water, and drainage taxes)
- Pune utilizes a General Tax upto 39% and 12 months (vs upto 25% and 10 months in BBMP), following a similar method to Bangalore

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1. Property Details: RCC structure (1,200 sqft) in Zone B (2nd most premium), FSI 2, tenanted, 10 years old, monthly rental value INR [illegible]/sqft, and guidance value INR 7,000/sqft
2. Annual Rental Value, Capital Value System 3. As %age of general tax

Commercial Property Tax | Mumbai utilizing different rates different categories of commercial properties; Ahmed. cross – subsidizing residential property tax

	Valuation (INR)[2]	**2,95,680** (ARV)		**1,27,68,000** (CVS)		**3,62,880** (ARV)		**3,83,040** (ARV)		-	
		%	INR	%	INR	%	INR	%	INR	%	INR
		Bangalore		**Mumbai**		**Pune**		**Hyderabad**		**Ahmedabad**	
1	General Tax %	25%	73,920	0.27%	34,474	38.75%	1,40,616	15%	57,456		82,406
2	Water Tax %		-	0.62%	79,162	7.50%	27,216		-	40%	32,962[3]
3	Water Benefit Tax %		-	0.17%	21,706	3.75%	13,608		-		-
4	Sewerage Tax %		-	0.40%	51,072		-		-		-
5	Sewerage Benefit Tax %		-	0.105%	13,406		-		-		-
6	Drainage Tax %		-		-		-	3%	11,491		-
7	Conservancy Tax %		-		-		-	9%	34,474	40%	32,962[3]
8	Municipal Education Cess %		-	0.10%	12,768	1.75%	6,350		-	10%	8,241[3]
9	State Education Cess %		-	0.08%	10,214		-		-		-
10	Employment Guarantee Cess %		-	0.02%	2,554		-		-		-
11	Tree Cess %		-	0.005%	638	1%	3,629		-		-
12	Street Tax %		-	0.13%	16,598		0		-		-
13	Fire Cess %		-		-	1.50%	5,443		-		-
14	Lighting Tax %		-		-		-	3%	11,491		-
15	Cleaning Tax %		-		-	17.50%	63,504		-		-
16	Path Tax %		-		-	9%	32,659		-		-
17	Health Cess (% of General Tax)	15%	11,088		-		-		-		-
18	Beggary Cess (% of General Tax)	3%	2,218		-		-		-		-
19	Urban Infra. Cess (% General Tax)	2%	1,478		-		-		-		-
20	Library Cess (% of General Tax)	6%	4,435		-		-	8%	9,193		-
	Total Tax Liability		**93,139**		**2,42,592**		**2,93,026**		**1,24,105**		**1,56,571**
	General Tax : Other tax		79:21		14:86		48:52		46:54		53:47
	General Tax : Other tax (excl. 2-6)		79:21		45:55		56:44		51:49		67:33

- Ahmedabad cross subsidizing property tax by charging very less in residential property tax but increased commercial property tax multipliers
- Pune charging differential tax like Special Cleaning Tax for commercial establishments like hotels, restaurants, wedding halls, hospitals

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1. Property Details: RCC structure (1,200 sqft) in Zone B (2nd most premium), FSI 2, tenanted, 10 years old, monthly rental value INR 14/sqft, and guidance value INR 7,000/sqft
2. Annual Rental Value, Capital Value System 3. As %age of general tax

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3.3

Pune and Hyderabad using a slab-based taxation which can be explored by BBMP to enhance property tax revenue in a progressive manner

Pune

Pune implements a slab-based general property tax system, where the tax amount is directly proportional to the estimated income generated from the property

Annual taxable amount of INR	Urban / Rural Department Proposed Rate
1-2,000	14.75%
2001-5,000	21.75%
5,001 - 20,000	30.75%
20,000 & above	38.75%

Hyderabad

Hyderabad also implements a slab-based general property tax system, similar to Pune

Monthly rental	0 - 50/-	51-100/-	101-200/-	201-300/-	Above 300/-
General Tax	Exempt	2%	4%	7%	15%
Conservancy Tax	Exempt	9%	9%	9%	9%
Lighting Tax	Exempt	3%	3%	3%	3%
Drainage Tax	Exempt	3%	3%	3%	3%
TOTAL	**0%**	**17%**	**19%**	**22%**	**30%**

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1. User category: Open land, residential, commercial, industrial (categories)

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Mumbai implements higher property tax for upper floors & varying rates for commercial properties

Higher Floor level factor

SCHEDULE - D

(See rule 8)

Weightages by multiplication to be assigned to a building on account of floor factor for a RCC building with lift

Sr. No	Floor	Weightage by multiplication
1	Basement	0.70
2	Lower ground floor	1.00
3	Upper ground floor	1.00
4	Ground floor	1.00
5	From 1st to 4th floor	1.00
6	From 5th to 10th floor	1.05
7	From 11th to 20th floor	1.10
8	From 21st to 30th floor	1.15
9	From 31st to 50th floor	1.20
10	From 51st to 75th floor	1.25
11	From 76th to 100th floor	1.30
12	Above 100th floor	1.35

Differential commercial user factors

Shops/Commercial Buildings

User categories of Shops / Commercial Buildings and corresponding weightages by multiplication

Sr. No	User category of Shop/Commercial Building or part thereof	Weightage by multiplication to the base value.
1	Multiplex	1.00
2	Hotel - five star and above	1.00
3	Four star hotel	0.96
4	Three start hotel	0.92
5	Two star hotel	0.88
6	One star hotel	0.84
7	Commercial user	0.80
8	Entrance lobby	0.80
9	Lounge / Visitors waiting room	0.80
10	Service floor	0.20
11	Storage Tank	0.64
12	Tiers of seats for spectators in a stadium where tickets are sold	0.48
13	Electric sub-station of a commercial building	0.64
14	Open Terrace in exclusive possession attached to flat	0.40
15	Open air theater - stage and other structures	0.24

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Potential annual revenue upside of INR 400-450 Cr from proposed slabs and rates under CVS system with expected relief for low-value residential property owners

Overview

Total property tax collections currently at INR approx. 5000 Crores:

- Residential Property Tax collection approx. INR 2,300 Crores
- Commercial Property tax collection approx. INR 2,700 Crores
- Property tax rates were last revised in 2016: New Guidance value driven CVS system approved in Greater Bengaluru Governance Act, 2024

Proposed slabs and rates can potentially increase annual property tax revenues by INR 400-450 crore/year (~8-9%)

Majority of the increase is from higher value commercial properties cross subsidizing the impact on lower value residential homes

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2-slab structure proposed for residential & commercial property tax respectively, with necessary capping to moderate impact on taxpayers

① Residential Property Tax

- **2-slab structure proposed:**
  - Slab 1: 0.08% for properties with Guidance value (GV) ≤INR 50 lakh,
  - Slab 2: 0.10% for properties with GV >INR 50 lakh -
  - Construction cost: INR 2,000/sqft
  - Proposed ceil/floor: +110% ceiling and 90% floor as compared to last property tax paid
- Potential generation of INR 150-160 crore additional annual revenue
- 43% of Slab 1 properties see reduction in property tax liability, floored at 90% of prior liability (Y1) for smoother adoption

② Commercial Property Tax

- **2-slab structure proposed:**
  - Slab 1: 0.20% for Built up area <= 50,000 sq. ft., annual cap at 15%
  - Slab 2: 0.30% for Built up area > 50,000 sq. ft., annual cap at 20%
  - Construction cost: INR 3,000/sqft
  - Proposed Ceil/floor:
    - Slab 1: +115% ceiling and 100% floor as compared to last tax paid
    - Slab 2: +120% ceiling and 100% floor as compared to last property tax paid
- Potential generation of INR 220-250 crore additional annual revenue

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Collection Efficiency | Preliminary list of ideas to be explored to enhance collection from 2.5 lakh registered properties that are not paying taxes

1 Ease of Payment online with lesser number of clicks	Major municipal corporations in India like Pune MC, Brihan Mumbai MC, Ahmedabad MC have integrated property tax bills with wallets/platforms like Cred, Google Pay and Paytm	CRED Google Pay Paytm
2 Monthly EMI installment option	Singapore's myTax Portal for online filings/payments and GIRO (General Interbank Recurring Order), which allows taxpayers to spread property tax payments across monthly installments	INLAND REVENUE AUTHORITY OF SINGAPORE
3 Public Awareness & Transparency Campaigns	Beijing Municipal Tax Bureau ran citywide publicity programs—TV ads, social media outreach, neighborhood-level workshops; 10% rise in timely property tax payments[1]	Information Office of Beijing Municipal Government
4 Amnesty & Incentive Schemes	Indonesia's FY17 , Delhi (FY23) & Pune (FY21) utilized tax amnesty allowed voluntary disclosure of undeclared assets, Quezon city gives rebate of 10% for payments made in time	

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[1] Beijing finance bureau survey 2018

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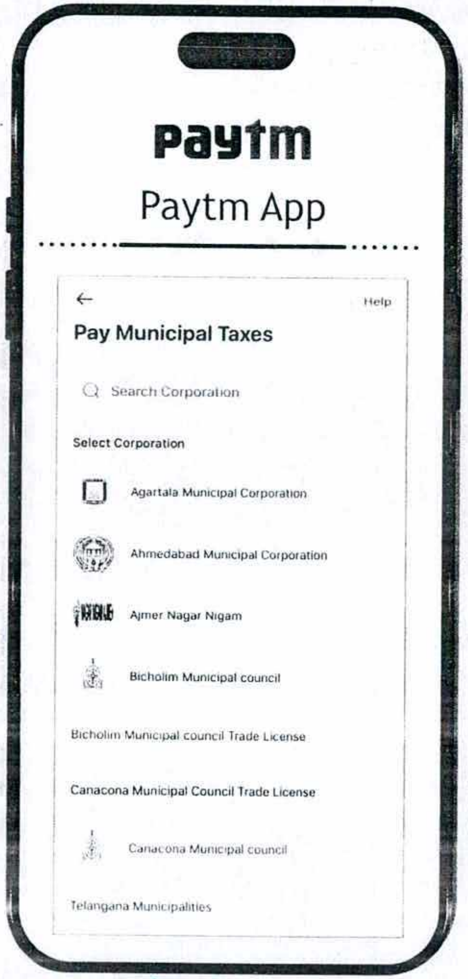
Municipal corporations of Pune, Mumbai & Ahmedabad have enabled property tax payments through digital wallets & platforms like Cred, Google Pay, Paytm

CRED
Cred App

2:47

select your municipal tax authority



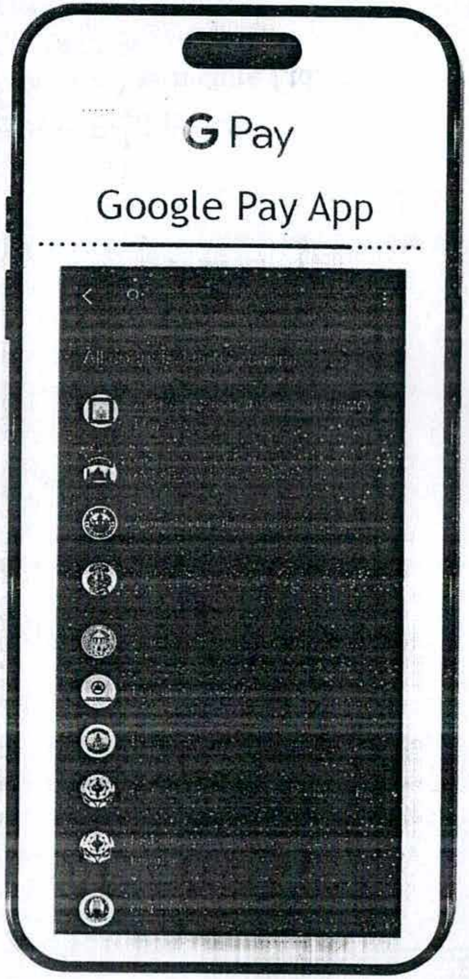
Pay Municipal Taxes

Help

Search Corporation

Select Corporation

- Agartala Municipal Corporation
- Ahmedabad Municipal Corporation
- Ajmer Nagar Nigam
- Bicholim Municipal council
- Bicholim Municipal council Trade License
- Canacona Municipal Council Trade License
- Canacona Municipal council
- Telangana Municipalities



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Increasing property tax net | Leveraging data and technology to bring 5 lakh unassessed properties in tax net

1 Cross-Referencing Utility Consumption (e.g. BESCOM)	Shanghai Municipal Tax service with State Grid Power Company linked electricity data with tax records to detect unregistered properties; increased tax coverage by 12%
2 GIS-Based Property Mapping & Detection	Yogyakarta, Indonesia - Directorate General of Taxes - used satellite imagery and GIS to detect unregistered properties; increased tax revenue by 8%.
3 Integrated Data-Sharing from Land Department	Real-time data exchange system among Dubai Land Department (DLD): all tenant-landlord agreements registered online, with mismatch triggers to identify unregistered properties
4 Reclassification of Properties based on actual usage	Selangor, Malaysia - reclassified properties based on actual usage; BMC and Chennai Trade license issuance requires Property tax ID, forming a basis to check property classification

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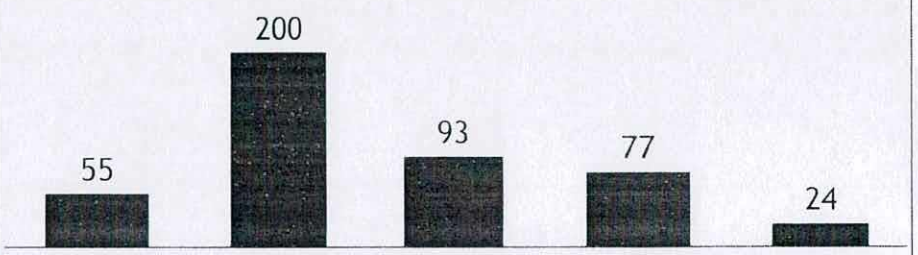
Mumbai collects INR 200 Cr, while Hyderabad leads in per capita collection; Scope to increase the Trade licensing revenue for BBMP to INR 250[1] Crore+



	FY 23				
	Bangalore	Mumbai	Hyd	Delhi	Chennai
Trade Licensing Revenue (INR Crores)	55	200	93	77	24
INR/Per capita	39	92	116	39	20

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(B-S[illegible]

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[1] Includes only food and hospitality-related categories (restaurants, eateries, hotels, commercial accommodations, and alcohol shops), which account for approximately 50% of total trades and contributed INR 80 crore in revenue in FY24

"ಮಾಹಿತಿ ಹಕ್ಕು ಕಾಯ್ದೆ-2005ರ
ಅಡಿಯಲ್ಲಿ ನೀಡಲಾಗಿದೆ"

Field visits and Compliance Challenges

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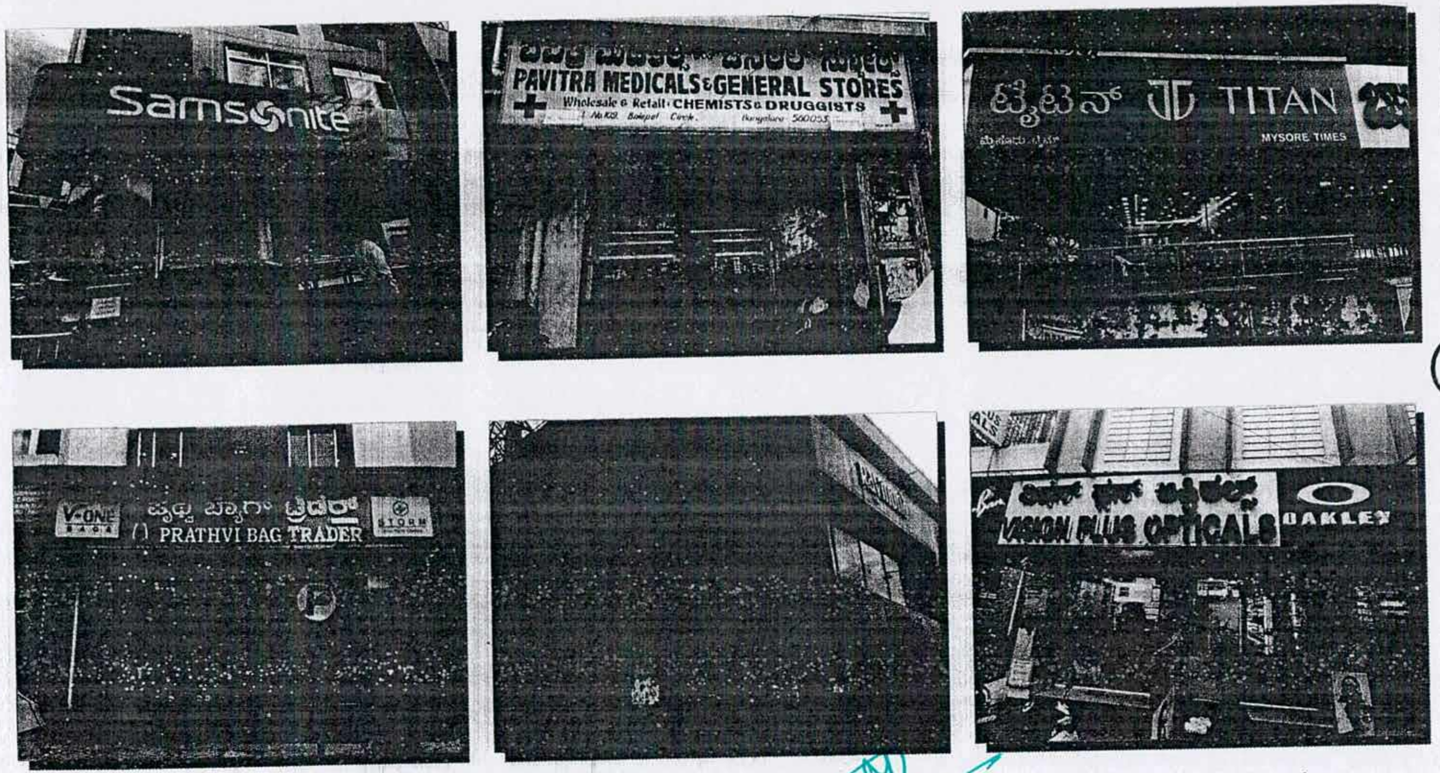
Study conducted in two commercial clusters of BBMP: Gandhinagar and Chickpet


Samsonite
PAVITRA MEDICALS & GENERAL STORES
Wholesale & Retail · CHEMISTS & DRUGGISTS
ಟೈಟನ್
TITAN
MYSORE TIMES
V-ONE
PRATHVI BAG TRADER
STORM
VISION PLUS OPTICALS
OAKLEY

About 7,000+ shops operate in Chickpet and Gandhinagar wards, but only 1,000 trade licenses were issued last year

70-80%, primarily non-food businesses do not hold BBMP trade licenses

Only INR 1.28 Crores (Gandhinagar) and INR 18 Lakh (Chickpet) collected in FY25-26

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Low levels of revenue collections because of 4 major reasons

1.1 Exemption orders of Trade license categories

My auditor told me that if we have MSME registration, we are exempted from Trade license

Lighting and cables shop owner

Some trades are exempt from trade licenses due to specific government orders and amendments to the Municipal Act

1.2 Tech. Issues

I want to upgrade my trade category to restaurant with a bar, but system does not allow to change it

A restaurant owner

Tech issues including absence of a Unique ID, inability to modify trade /power load, and limitations in collecting retrospective fees

1.3 Miscommunication & Lack of awareness

I did not know that we had to take a BBMP license as well. I only have GST

Cloth shop and bag shop owners

Low awareness about trade license registration and incorrect certificate expiry date hinders effective revenue collection

1.4 Rate card complexity and issues

There are a lot of categories, I did not know in which category my trade falls

A hotel owner who has registered shop as Dharshini hotel

200+ trade categories exist, many of which are redundant; rate cards also contain errors and have not been updated since 2016

1. Karnataka Private Medical Establishments Act

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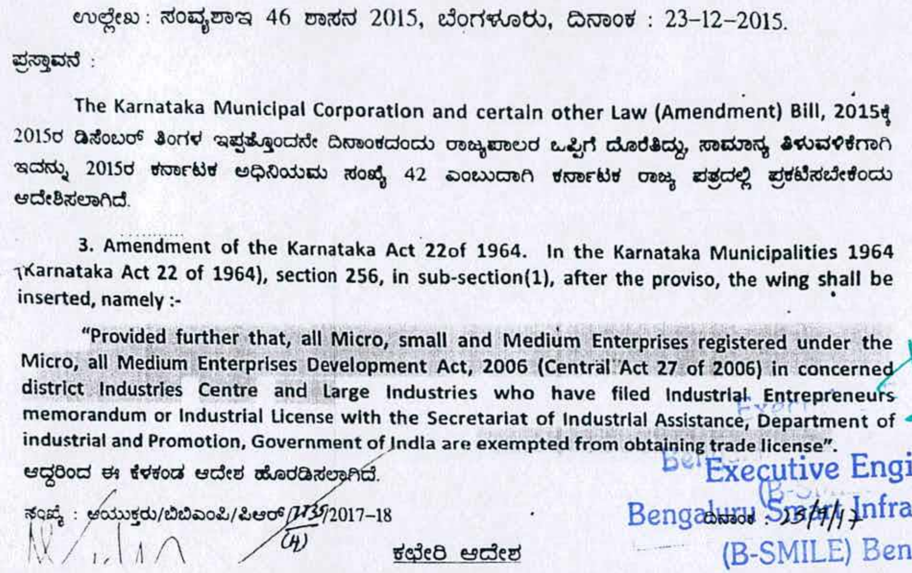
3.4

Trade license exemptions for MSMEs and private medical institutions commonly cited to avoid registration

Amendment of Karnataka Municipal Corporation Act was done in 2017 to give exemption to businesses registered under MSME from obtaining Trade license



ಉಲ್ಲೇಖ : ಸಂವ್ಯಶಾಇ 46 ಶಾಸನ 2015, ಬೆಂಗಳೂರು, ದಿನಾಂಕ : 23-12-2015.

ಪ್ರಸ್ತಾವನೆ :

The Karnataka Municipal Corporation and certain other Law (Amendment) Bill, 2015ಕ್ಕೆ 2015ರ ಡಿಸೆಂಬರ್ ತಿಂಗಳ ಇಪ್ಪತ್ತೊಂದನೇ ದಿನಾಂಕದಂದು ರಾಜ್ಯಪಾಲರ ಒಪ್ಪಿಗೆ ದೊರೆತಿದ್ದು, ಸಾಮಾನ್ಯ ತಿಳುವಳಿಕೆಗಾಗಿ ಇದನ್ನು 2015ರ ಕರ್ನಾಟಕ ಅಧಿನಿಯಮ ಸಂಖ್ಯೆ 42 ಎಂಬುದಾಗಿ ಕರ್ನಾಟಕ ರಾಜ್ಯ ಪತ್ರದಲ್ಲಿ ಪ್ರಕಟಿಸಬೇಕೆಂದು ಆದೇಶಿಸಲಾಗಿದೆ.

3. Amendment of the Karnataka Act 22of 1964. In the Karnataka Municipalities 1964 (Karnataka Act 22 of 1964), section 256, in sub-section(1), after the proviso, the wing shall be inserted, namely :-

"Provided further that, all Micro, small and Medium Enterprises registered under the Micro, all Medium Enterprises Development Act, 2006 (Central Act 27 of 2006) in concerned district Industries Centre and Large Industries who have filed Industrial Entrepreneurs memorandum or Industrial License with the Secretariat of Industrial Assistance, Department of industrial and Promotion, Government of India are exempted from obtaining trade license".

ಆದ್ದರಿಂದ ಈ ಕೆಳಕಂಡ ಆದೇಶ ಹೊರಡಿಸಲಾಗಿದೆ.

ಸಂಖ್ಯೆ : ಆಯುಕ್ತರು/ಬಿಬಿಎಂಪಿ/ಪಿಆರ್/1135/2017-18 (4)

ದಿನಾಂಕ : 23/9/17

ಕಛೇರಿ ಆದೇಶ

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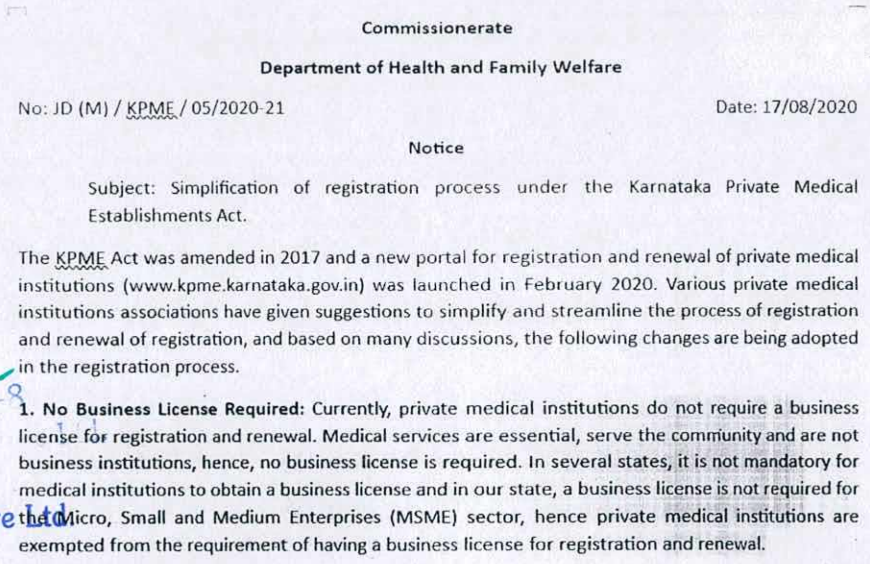
Amendment to the Karnataka Private Medical Establishments Act (in 2020) exempts private medical institutions from requiring a business license, as per the Department of Health and Family Welfare



Commissionerate

Department of Health and Family Welfare

No: JD (M) / KPME / 05/2020-21 Date: 17/08/2020

Notice

Subject: Simplification of registration process under the Karnataka Private Medical Establishments Act.

The KPME Act was amended in 2017 and a new portal for registration and renewal of private medical institutions (www.kpme.karnataka.gov.in) was launched in February 2020. Various private medical institutions associations have given suggestions to simplify and streamline the process of registration and renewal of registration, and based on many discussions, the following changes are being adopted in the registration process.

1. No Business License Required: Currently, private medical institutions do not require a business license for registration and renewal. Medical services are essential, serve the community and are not business institutions, hence, no business license is required. In several states, it is not mandatory for medical institutions to obtain a business license and in our state, a business license is not required for the Micro, Small and Medium Enterprises (MSME) sector, hence private medical institutions are exempted from the requirement of having a business license for registration and renewal.

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Several technology-related issues persist throughout the trade licensing process, highlighting the need for system upgrades

a

Unable to identify the defaulters

Random field visits conducted as no defaulter list is being generated by the system

b

Inability to Recover Long-Term Dues

System does not allow retrospective payments of penalties and dues beyond three years

c

Inability to Modify Trade Information

Traders are unable to update trade type or power load, resulting in revenue loss from upgraded establishments

d

Limited Payment options

No UPI support causes delays in fee collection

Illustrations Ahead

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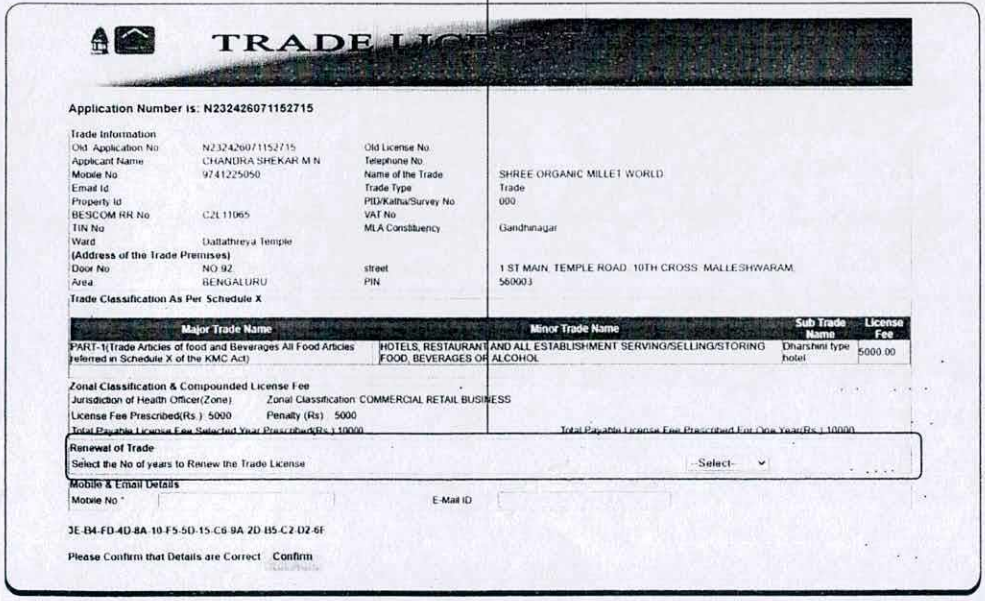
System limitation: No provision for retrospective fee/penalty recovery beyond 3 years; inability to modify approved trade type or sanctioned power

Illustration

Option to renew



Application Number is: N232426071152715

Trade Information

Old Application No	N232426071152715	Old License No	
Applicant Name	CHANDRA SHEKAR M N	Telephone No	
Mobile No	9741225050	Name of the Trade	SHREE ORGANIC MILLET WORLD
Email Id		Trade Type	Trade
Property Id		PID/Katha/Survey No	000
BESCOM RR No	C2L11065	VAT No	
TIN No		MLA Constituency	Gandhinagar
Ward	Dattathreya Temple		

(Address of the Trade Premises)

Door No	NO 92	street	1 ST MAIN TEMPLE ROAD 10TH CROSS MALLESHWARAM
Area	BENGALURU	PIN	560003

Trade Classification As Per Schedule X

Major Trade Name	Minor Trade Name	Sub Trade Name	License Fee
PART-1(Trade Articles of food and Beverages All Food Articles referred in Schedule X of the KMC Act)	HOTELS, RESTAURANT AND ALL ESTABLISHMENT SERVING/SELLING/STORING FOOD, BEVERAGES OR ALCOHOL	Dharshini type hotel	5000.00

Zonal Classification & Compounded License Fee

Jurisdiction of Health Officer(Zone) Zonal Classification COMMERCIAL RETAIL BUSINESS

License Fee Prescribed(Rs.) 5000 Penalty (Rs) 5000

Total Payable License Fee Selected Year Prescribed(Rs.) 10000 Total Payable License Fee Prescribed For One Year(Rs.) 10000

Renewal of Trade

Select the No of years to Renew the Trade License --Select-- ⌄

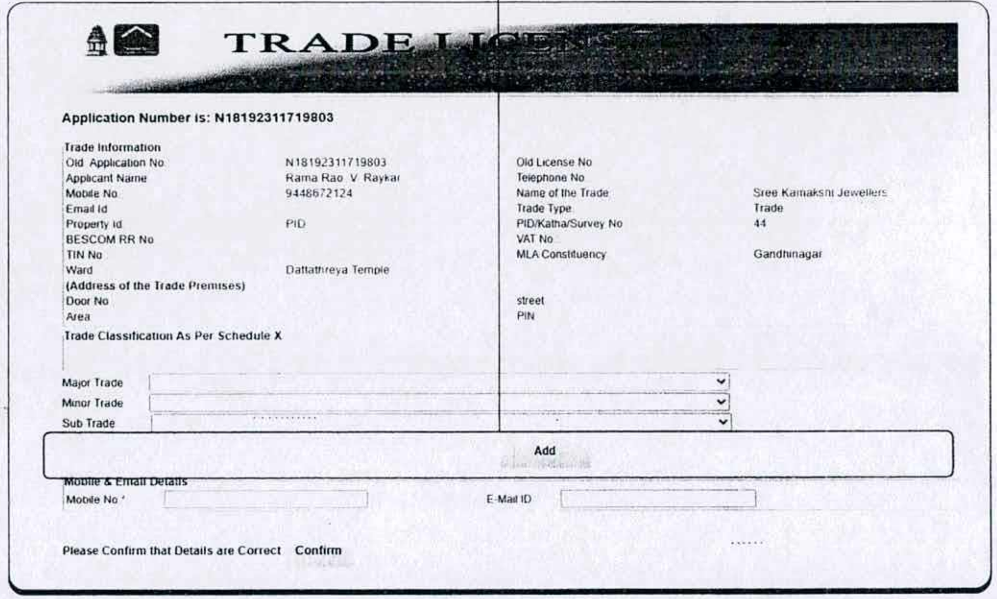
Mobile & Email Details

Mobile No * E-Mail ID

3E-B4-FD-4D-8A-10-F5-5D-15-C6-9A-2D-B5-C2-D2-6F

Please Confirm that Details are Correct **Confirm**

No Option to renew



Application Number is: N18192311719803

Trade Information

Old Application No	N18192311719803	Old License No	
Applicant Name	Rama Rao V Raykar	Telephone No	
Mobile No	9448672124	Name of the Trade	Sree Kamakshi Jewellers
Email Id		Trade Type	Trade
Property Id	PID	PID/Katha/Survey No	44
BESCOM RR No		VAT No	
TIN No		MLA Constituency	Gandhinagar
Ward	Dattathreya Temple		

(Address of the Trade Premises)

Door No		street	
Area		PIN	

Trade Classification As Per Schedule X

Major Trade ⌄

Minor Trade ⌄

Sub Trade ⌄

Add

Mobile & Email Details

Mobile No * E-Mail ID

Please Confirm that Details are Correct **Confirm**

The renewal interface for FY 2023-24 allows for the payment of retrospective fees and penalties (as less than 3 years have lapsed)

The renewal interface for FY 2018-19 does not permit payment of retrospective fees, (as more than 3 years have lapsed)

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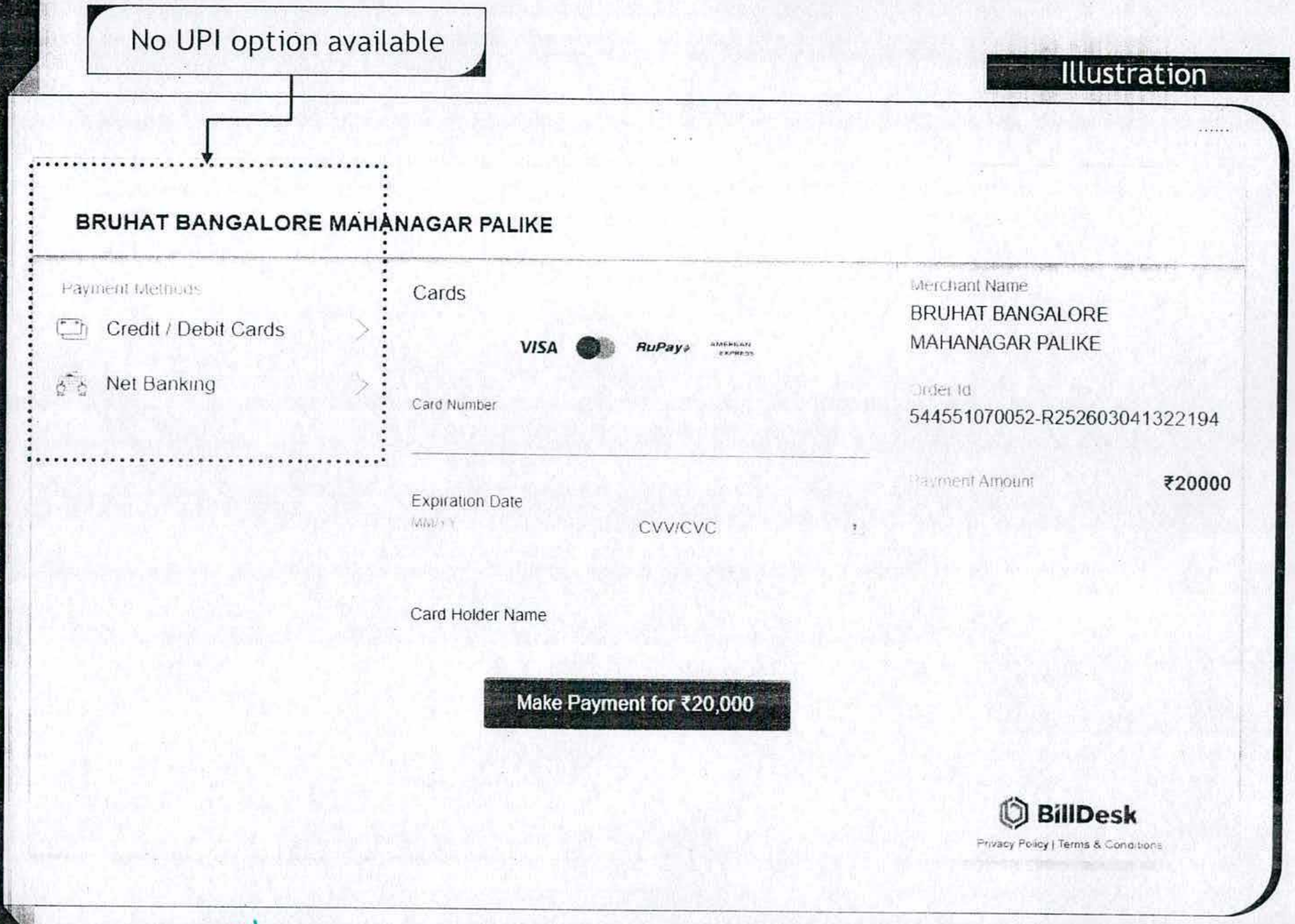
Inadequate digital payment options, especially the absence of UPI, hinder timely license fee transactions and affect revenue realization

Illustration



No UPI option available

BRUHAT BANGALORE MAHANAGAR PALIKE

Payment Methods
Credit / Debit Cards
Net Banking
Cards
VISA
RuPay
AMERICAN EXPRESS
Card Number
Expiration Date
MM/YY
CVV/CVC
Card Holder Name
Make Payment for ₹20,000
BillDesk
Privacy Policy | Terms & Conditions

Merchant Name
BRUHAT BANGALORE MAHANAGAR PALIKE

Order Id
544551070052-R252603041322194

Payment Amount ₹20000

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Scope to improve the consistency and coherence of BBMP's rate card by establishing uniform categorization principles

BBMP has 8 schedules for license categories with 54 minor categories and 213 sub-categories

1. Food and Beverages
2. Commercial Accommodation
3. Non-Food Items-Medical
4. Non-Food Items-Industrial
5. Non-Food Items-Construction/Materials
6. All Food Items Not Specifically Mentioned
7. Use of Power-Driven Machinery (Noise Pollution)
8. No Objection Certificates for Entertainment & Trade Fairs, etc.

Major Category	Minor Category	Category	Trade Fee
PART-1(Trade Articles of food and Beverages All Food Articles referred in Schedule X of the KMC Act)	Hotels, restaurant and all establishment serving/selling/storing food, beverages or alcohol	Bar without kitchen with snacks supply	20000
		Hotel with A/C with 1000-2000 sq. Ft area	20000
		Hotel with A/C with less than 1000 sq. Ft area	15000
		Dharshini type hotel	5000
		A/C hotel attached with bar with more than 2000 sq. Ft area	50000
		Hotels without A/C attached with bar	25000
		Hotel with A/C with more than 2000sq.ft area	25000
		Hotel without A/C	10000
		Canteens at factories, nursing homes and cinemas	5000
	Bread, biscuits, pastry confectionary and savories	Preparation with Power less than 10HP	5000
PART-2(Trade License for Commercial Accommodation	Boarding & lodging to which the public are admitted for repose or let with or without consumption of any food or drink	Boarding & Lodging Above 50 Rooms	50000
		Lodging Only- Above 50 Rooms	30000
		Where the total built up area exceeds 15000 Sq. feet but less than 10000 sqfeet	40000
		Service Apartments and the like-Less than 10 Rooms	10000
		Paying Guests Accommodation and the like with or without food with more than 50 rooms	10000
		Students and sports hostel with or without service of food	2000

Examples of inconsistencies and errors

Examples of Inconsistencies:

- In Schedule 1, some trades are classified by built-up area (sq. ft.), others by facility type (e.g., A/C vs. non-A/C, bar attached), and some based on preparation methods or power consumption
- Acco. categories include overlapping or unclear distinctions such as "Boarding and Lodging" vs. "Lodging Only"

Examples of Errors Identified:

- E.g., "Where the total built-up area exceeds 15,000 sq. ft. but less than 10,000 sq. ft."

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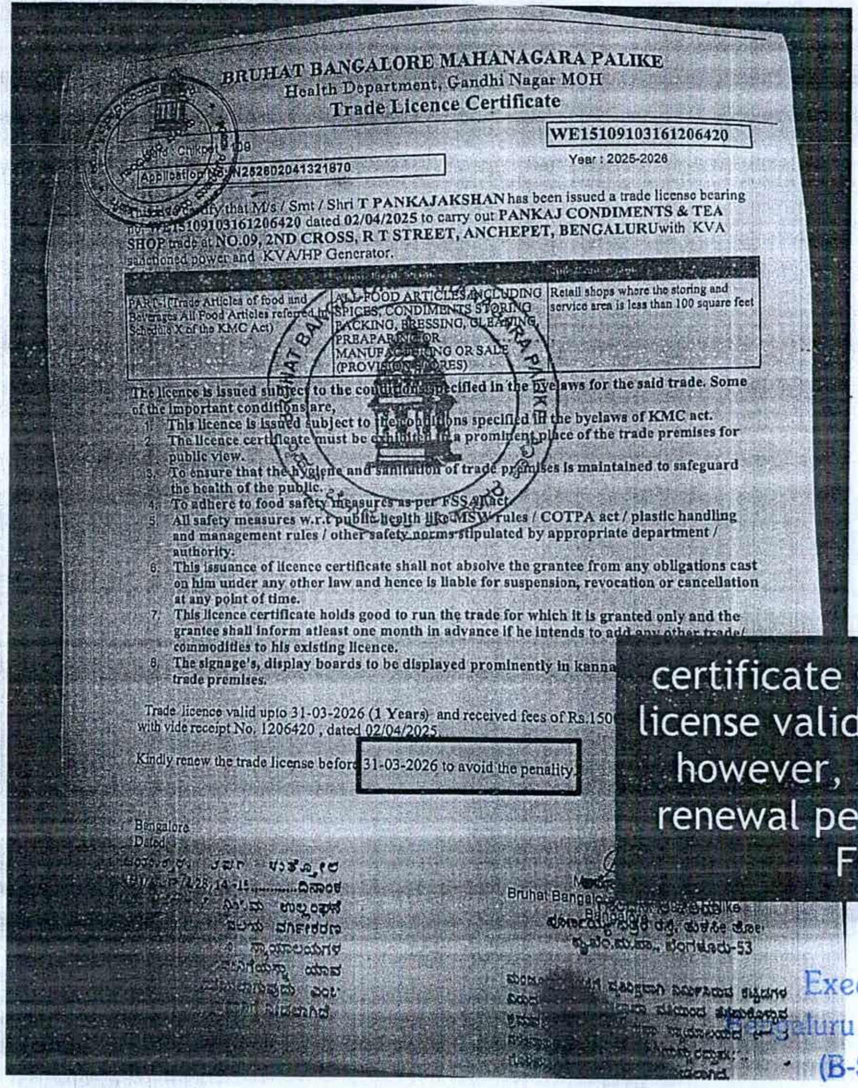
Mismatch between certificate-stated and actual renewal deadlines leads to confusion and increased defaulters



BRUHAT BANGALORE MAHANAGARA PALIKE
Health Department, Gandhi Nagar MOH
Trade Licence Certificate

WE15109103161206420
Year : 2025-2026

Ward : Chikpet - 109
Application No. N252602041321870

This is to certify that M/s / Smt / Shri **T PANKAJAKSHAN** has been issued a trade license bearing no. WE15109103161206420 dated 02/04/2025 to carry out **PANKAJ CONDIMENTS & TEA SHOP** trade at **NO.09, 2ND CROSS, R T STREET, ANCHEPET, BENGALURU**with KVA sanctioned power and KVA/HP Generator.

PART-I(Trade Articles of food and Beverages All Food Articles referred in Schedule X of the KMC Act)	ALL FOOD ARTICLES INCLUDING SPICES, CONDIMENTS STORING PACKING, PRESSING, CLEANING, PREAPARING OR MANUFACTURING OR SALE (PROVISION STORES)	Retail shops where the storing and service area is less than 100 square feet

The licence is issued subject to the conditions specified in the byelaws for the said trade. Some of the important conditions are,

1. **This licence is issued subject to the conditions specified in the byelaws of KMC act.**
2. **The licence certificate must be exhibited in a prominent place of the trade premises for public view.**
3. **To ensure that the hygiene and sanitation of trade premises is maintained to safeguard the health of the public.**
4. **To adhere to food safety measures as per FSSAI act.**
5. **All safety measures w.r.t public health like MSW rules / COTPA act / plastic handling and management rules / other safety norms stipulated by appropriate department / authority.**
6. **This issuance of licence certificate shall not absolve the grantee from any obligations cast on him under any other law and hence is liable for suspension, revocation or cancellation at any point of time.**
7. **This licence certificate holds good to run the trade for which it is granted only and the grantee shall inform atleast one month in advance if he intends to add any other trade/ commodities to his existing licence.**
8. **The signage's, display boards to be displayed prominently in kanna trade premises.**

Trade licence valid upto 31-03-2026 (1 Years) and received fees of Rs.150 with vide receipt No. 1206420 , dated 02/04/2025.

Kindly renew the trade license before 31-03-2026 to avoid the penality.

Bengalore
Dated

Bruhat Bangalore Mahanagara Palike
Bangalore
ಬೆಂಗಳೂರು-53

certificate showing the trade license validity till 31st March, however, the penalty-free renewal period ends on 28th February

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Proposed Reforms

ಮಾಹಿತಿ ಹಕ್ಕು ಕಾಯ್ದೆ-200
ಅಡಿಯಲ್ಲಿ ನೀಡಲಾ

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Proposed action plan across three key dimensions: Two long-term reforms and one immediate collection drive

Long term interventions

1

Policy level Action Plan

2

Technological enablement

Short term interventions

3

Collection Drives

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ಅಡಿಯಲ್ಲಿ ನೀಡಲಾದ ಪ್ರತಿ"

Policy level action Plan

Trade licensing policy must be formulated to establish a robust and transparent framework with defined categories, rates, and safeguards

1.1 All traders required to obtain trade licenses

1.2 Revised and rationalized trade categories and corresponding rates

1.3 Other Safeguards
   a. Mechanism for annual escalation of license fees
   b. Renewal dates and Structured penalty provisions
   c. Convenience fees applicable for online services

1.4 Corresponding organizational structure and authority for the Simplified rate card

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ಅಡಿಯಲ್ಲಿ ನೀಡಲಾದ ಪ್ರತಿ"

The policy must clearly mandate that all establishments within BBMP's jurisdiction are required to obtain a trade license, thereby nullifying any previously granted exemptions

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3.4

As per Section 305 of the Bruhat Bengaluru Mahanagara Palike (BBMP) Act, 2020 and Greater Bengaluru Governance Act, 2024, all establishments falling under the jurisdiction of BBMP and engaged in any of the following categories are mandatorily required to obtain a valid Trade License:

- *Establishment and operation of markets, either wholesale or retail*
- *Establishment and operation of trade establishments*
- *Establishment and operation of slaughterhouses*
- *Establishment and operation of restaurants*
- *Establishment and operation of industries*
- *Establishment and operation of commercial undertakings*
- *Establishment and operation of corporate offices*
- *Establishment of service apartments and paying guest accommodations*
- *Establishment and operation of shared office and living spaces*
- *Establishment and operation of hospitals and nursing homes*
- *Establishment and operation of resthouses*
- *Establishment and operation of theatres, fairs, circuses, and places of public amusement*
- *Establishment and operation of milk trade*
- *Keeping of animals and birds*
- *Establishment of stables, cattle sheds, and cow houses*
- *Provision of places for the burial of the dead*
- *Establishment of food trucks or any cart stands*

All the previous exemptions including, but not limited to:

- Amendment to the Karnataka Municipal Corporations Act (2017) providing an exemption for businesses under the Micro, Small and Medium Enterprises (MSME) category, &
- Amendment to the Karnataka Private Medical Establishments Act in 2020, as per the Department of Health and Family Welfare, exempting private medical institutions form obligation to procure a business license

Shall not be applicable.

Mumbai & Hyd. employ an area-based, uniform rate card across all trade categories, in contrast to BBMP's granular item-wise structure

Hyderabad: Simple linear rate card

Sl. No	No. of Lanes	Road Width	Rate per Sft	Maximum Amount
1	Single Lane	20 Feet	RS. 3/-	RS. 10,000/-
2	Double Lane	30 Feet	RS. 4/-	RS. 50,000/-
3	Multiple Lane	> 30 Feet	RS. 6/-	RS. 2,00,000/-
4	Star Hotels, Corporate Hospitals	> 30 Feet	RS. 6/-	RS. 2,50,000/-

Hyderabad follows a four-tier rate card structure, wherein the trade license fee is determined per square foot (based on road width).

**Previously applicable maximum cap was abolished following a government directive*

Mumbai: Area based step function increase

Trade type	Range	Rates (INR)
Baking	Upto 20 sq.mts.	475
	Over 20 sq.mts. upto 40 sq.mts.	735
	Over 40 sq.mts. upto 70 sq.mts.	1,435
	Over 70 sq.mts. upto 100 sq.mts.	1,770
	Over 100 sq.mts. upto 150 sq.mts.	2,495
	Over 150 sq.mts. upto 200 sq.mts.	3,590
	Over 200 sq.mts. for every additional 40 sq.mts. or under	395
	Subject to the maximum of	28,560
Processing or refining of mineral oils of any kinds	Upto 25 sq.mts.	1,435
	Over 25 sq.mts. upto 50 sq.mts.	2,855
	Over 50 sq.mts. upto 75 sq.mts.	4,255
	Over 75 sq.mts. upto 100 sq.mts.	5,690
	Over 100 sq.mts. for every additional 10 sq.mts. or under	475
	Subject to the maximum of	47,320

Mumbai adopts an area-based progressive step function for all trade categories, with rate slabs, applicable ranges, & max. caps varying by trade type

Combination of both the rate card structures is suggested for BBMP

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3.4

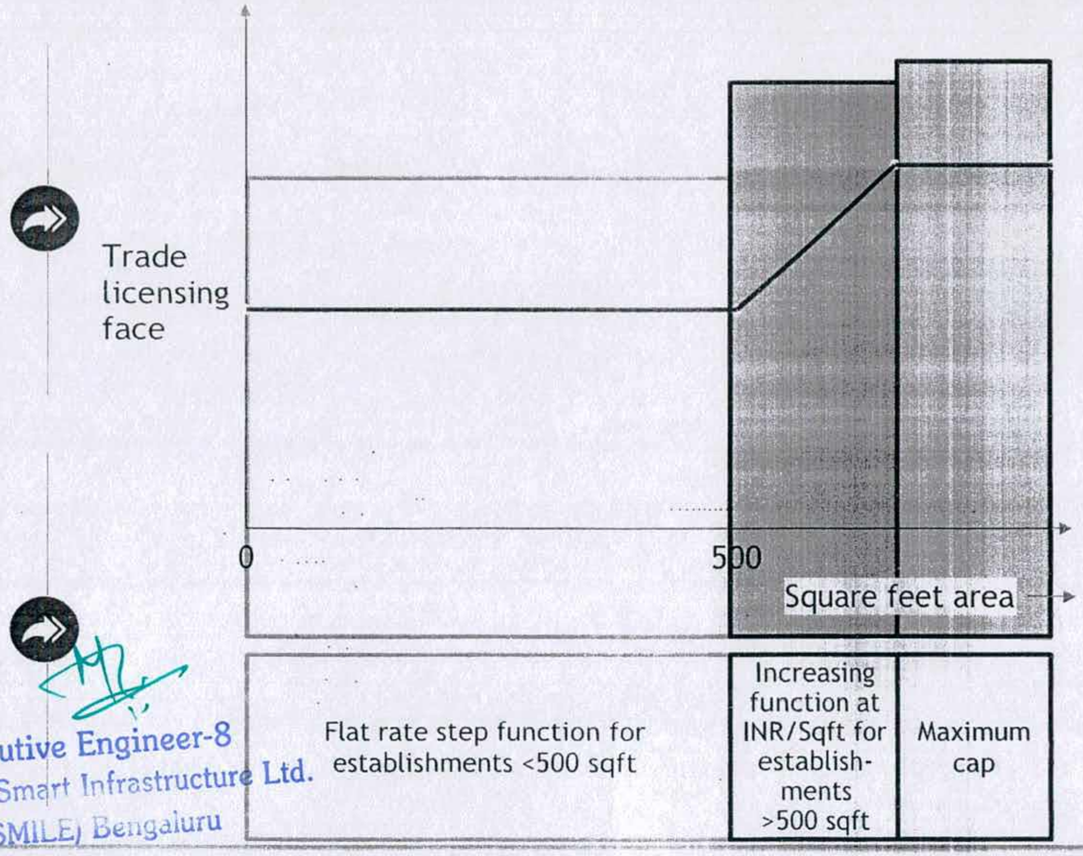
Revised rate card | Minimal Impact on Smaller Establishments, Higher Yield from Larger Units with Caps Based on BBMP History and Peer City Benchmarks

Simplified tiered rate model

- Flat rates for establishments up to 500 sq. ft Brackets: <500 sq. ft
- Area-based (INR/sq. ft) rates for >500 sq. ft
- Subject to a maximum cap, benchmarked against BBMP historical rates and peer cities

Key design guardrails

- Simplicity: Reduces complexity and deters rate misclassification
- Affordability: Minimal increase for small units[1]
- Equity: Larger units pay more, but rates are capped to remain competitive


Trade licensing face
0
500
Square feet area
Flat rate step function for establishments <500 sqft
Increasing function at INR/Sqft for establishments >500 sqft
Maximum cap

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[1] Inflation-adjusted from 2016

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ಅಡಿಯಲ್ಲಿ ನೀಡಲಾ

Simplified category structure designed to enhance compliance while ensuring minimal impact on smaller establishments and preventing steep rate increase

Categories		INR Below 500 sqft	INR 501 - 1000 sqft	INR 1001 - 2000 sqft	INR Above 2000 Sqft	INR Max Cap
Category 1	All [illegible] Manufacturing/Processing/packaging/preparation	1000	2000	4000	INR 6/Sqft	60,000
Category 2	All [illegible] Retail/wholesale/self service/storage	1000	2000	4000	INR 4/Sqft	30,000
Category 3	[illegible] Manufacturing/Processing/ packaging/ preparation	2000	4000	6000	INR 6/Sqft	60,000
Category 4	[illegible] Retail/wholesale/self service/storage	2000	4000	6000	INR 4/Sqft	30,000
Category 5	All [illegible] above: Manufacturing/processing/preparation/packaging	2000	4000	6000	INR 6/Sqft	60,000
Category 6	[illegible] above: Wholesale/retail/self service/storage/service	2000	4000	6000	INR 4/Sqft	30,000
Category 7	[illegible]	2000	4000	6000	INR 4/Sqft	30,000
Category 8	[illegible] Manufacturing/processing/preparation/packaging/ wholesale/retail	10000	20000	50000	INR 15/Sqft	5,00,000
Category 9	Restaurant and all [illegible]	9 a) Without bar: INR 2000 9 b) With Bar: INR 4000	9 a) Without bar: INR 5,000 9 b) With Bar: INR 10,000	9 a) Without bar: INR 10,000 9 b) With Bar: INR 20,000	9 a) Without bar: INR 4/Sqft 9 b) With Bar: INR 6/Sqft	9 a) INR 50,000 9 b) 75,000
Category 10	[illegible]	2000	5000	10000	10 a) 5 Star & above: INR 15/Sqft 10 b) Other star hotels: INR 6/Sqft 10 c) All other establishments: INR 6/Sqft	10 a) INR 5,00,000 10 b) INR 3,00,000 10 c) INR 50,000
Category 11	[illegible]	3000	6000	10000	INR 6/Sqft	60,000
Category 12	[illegible]	2000	4000	6000	INR 4/Sqft	10,000
Category 13	[illegible]	INR 100/HP				
Category 14	[illegible] for Entertinment & Trade Fairs [illegible] Stations and Fuel Storage/Theaters and the like)	13 a) Circus per week or fraction thereof – INR 2,000 13 b) Outdoor Music/live shows per week or fraction thereof – INR 30,000 13 c) Trade fair per week or fraction thereof – INR 25,000 13 d) Retail sales of fireworks – INR 5,000 13 e) Wholesale sales of fireworks – INR 20,000 13 f) Licence renewal for theaters – INR 10,000 13 g) Fuel station and fuel storage – INR 10,000 13 h) Other not included in list but requiring BBMP's NOC – INR 10,000				Same as before

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Detailed | Simplified category structure designed to enhance compliance while ensuring minimal impact on smaller establishments and preventing steep rate increase (I/IV)

			INR	INR	INR	INR	INR
	Categories	**Examples of previous rate card benchmarks**	**Below 500 Sqft**	**501-1000 Sqft**	**1001-2000 Sqft**	**Above 2000 Sqft**	**Max Cap**
Category 1	All food related items- Manufacturing/Processing/ packaging/preparation	• Preparation of Bread, biscuits, pastry, confectionary and savories/JAM = INR 4000 • Manufacturers of ready to eat food or processed food = INR 40,000 • Manufacturers of Edible oil: INR 10,000	1000	2000	4000	INR 6/Sqft	60,000
Category 2	All food related items- Retail/wholesale/self service/storage	• Retail stores where the storing and service area above 500 sq feet but = INR 1,000 • Storing, Packing and selling of Ghee where the storing and service area is more than 1000 sq feet = INR 2,000 • Retail stores where the storing and service area less 2000 sq feet = INR 3,000 • Supermarkets: INR 20,000	1000	2000	4000	INR 4/Sqft	30,000
Category 3	Industrial & Construction items: Manufacturing/Processing/ packaging/preparation	• Ammunition and firework manufacturing and storing: INR 20,000 • Battery reconditioning and servicing where the built-up area exceeds 200 sq: INR 2,000 • Candle preparation, storage or sale: INR 1,000 • Chemicals & pesticides of all kinds manufacturing, mixing, storing selling with (26-50 workers): INR 10,000	2000	4000	6000	INR 6/Sqft	60,000
Category 4	Industrial & Construction items: Retail/wholesale/self service/storage	• Soap Stockists for where the storage space is more than 1000 square feet: 5,000 • Soaps, detergents & disinfectants including seegekai manufacturing (<500 Sqft): INR 1000 • Soaps, detergents & disinfectants including seegekai manufacturing (>500 Sqft): INR 2000	2000	4000	6000	INR 4/Sqft	30,000

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Detailed | Simplified category structure designed to enhance compliance while ensuring minimal impact on smaller establishments and preventing steep rate increase (II/IV)

Categories		Examples of previous rate card benchmarks	*INR* Below 500 Sqft	*INR* 501-1000 Sqft	*INR* 1001-2000 Sqft	*INR* Above 2000 Sqft	*INR* Max Cap
Category 5	All other kinds of Non food trades not falling in Categories above: Manufacturing/processing/ preparation/packaging	• Manufacturing, processing, storage, selling of all kinds of Non-food trades not falling in Categories above: INR 25,000	2000	4000	6000	INR 6/Sqft	60,000
Category 6	All other kinds of Non food trades not falling in Categories above: Wholesale/retail/self service/storage/service	• Retail shops where the storing and service area is less than 100 square feet: INR 1,000 • Retail shops where the storing and service area is more than 500 square feet but less than 1000 square feet: INR 2,000 • Retail stores where the storing and service area is more than 1000 but less than 2000 square feet: INR 5,000 • Retail stores where the storing and service area is above 2000 square feet: INR 10,000	2000	4000	6000	INR 4/Sqft	30,000
Category 7	All corporate offices	• Same as Category 5,6	2000	4000	6000	INR 4/Sqft	30,000
Category 8	All kinds of Alcohol: Manufacturing/processing/ preparation/packaging/ wholesale/retail	• Manufacturing of all kinds of alcohol for human consumption: INR 4 Lakh • Wholesale stockists of Alcohol: INR 50,000 • Retail sale of Alcohol: INR 10,000	10000	20000	50000	INR 15/Sqft	5,00,000
Category 9	Restaurant and all establishment serving/selling/storing food, beverages or alcohol	• Eating Mess more than 200 Sq feet: INR 2,000 • Small coffee/tea stalls less than 200 Sq feet: INR 2,000 • Canteens at factories, nursing homes and cinemas: INR 5,000 • A/C hotel attached with bar with more than 2000 Sq.ft area: 50,000 • Hotel with A/C with less than 1000 Sq.ft area: INR 15,000 • Hotel with A/C with more than 2000 Sq.ft area: INR 25,000	9 a) Without bar: INR 2000 9 b) With Bar: INR 4000	9 a) Without bar: INR 5,000 9 b) With Bar: INR 10,000	9 a) Without bar: INR 10,000 9 b) With Bar: INR 20,000	9 a) Without bar: INR 4/Sqft 9 b) With Bar: INR 6/Sqft	9 a) INR 50,000 9 b) 75,000

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Detailed | Simplified category structure designed to enhance compliance while ensuring minimal impact on smaller establishments and preventing steep rate increase (III/IV)

	Categories	Examples of previous rate card benchmarks	*INR* Below 500 Sqft	*INR* 501-1000 Sqft	*INR* 1001-2000 Sqft	*INR* Above 2000 Sqft	*INR* Max Cap
Category 10	Hotels and Other Commercial Accommodation	• All 7 star hotels: INR 4 Lakh • All 5 Star Hotels: INR 3 Lakh • All 3 Star Hotels: INR 2 Lakh • Boarding & Lodging >50 Rooms: INR 50,000 • Boarding & Lodging > 20 Rooms but < 50 Rooms: INR 30,000 • Boarding & Lodging <20 rooms: INR 20,000	2000	5000	10000	10 a) 5 Star & above: INR 15/Sqft 10 b) Other star hotels: INR 6/Sqft 10 c) All other establishments: INR 6/Sqft	10 a) INR 5,00,000 10 b) INR 3,00,000 10 c) INR 50,000
Category 11	All medical and beauty/fitness related trades	• Men's Barber Shops with less than 300 Sq.ft area: INR 1,000 • Beauty parlor with more than 300 Sq.ft area: INR 5,000 • Laboratories 500-1000 Sq.ft area: INR 4,000 • Nursing Homes/Hospitals with >200 Bedded super specialty hospital/NABH: INR 50,000 • Nursing Homes & Hospitals with 100-200 Bedded super specialty hospital/NABH: INR 20,000 • Nursing Homes/Hospitals with <50 Bedded super specialty hospital/NABH: INR 6,000	3000	6000	10000	INR 6/Sqft	60,000
Category 12	All Animal Husbandry Related Trades	• Retail stores where the storing and service area is > 2000 Square feet: INR 6,000 • Retail stores where the storing and service area is >1,000 and < 2000 Square feet: INR 3,000 • Retail stores where the storing and service area is <1,000: INR 2,000	2000	4000	6000	INR 4/Sqft	10,000

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Detailed | Simplified category structure designed to enhance compliance while ensuring minimal impact on smaller establishments and preventing steep rate increase (IV/IV)

Categories		Examples of previous rate card benchmarks	INR Below 500 Sqft	INR 501-1000 Sqft	INR 1001-2000 Sqft	INR Above 2000 Sqft	INR Max Cap
Category 13	Power License		INR 100/HP				
Category 14	Issue of No Objection Certificates for Entertainment & Trade Fairs Stations and Fuel Storage/Theaters and the like)		13 a) Circus per week or fraction thereof-INR 2,000 13 b) Outdoor Music/live shows per week or fraction thereof INR 30,000 13 c) Trade fair per week or fraction thereof-INR 25,000 13 d) Retail sales of fireworks-INR 5,000 13 e) Wholesale sales of fireworks-INR 20,000 13 f) License renewal for theaters-INR 10,000 13 g) Fuel station and fuel storage-INR 10,000 13 h) Other not included in list but requiring BBMP's NOC-INR 10,000				Same as before

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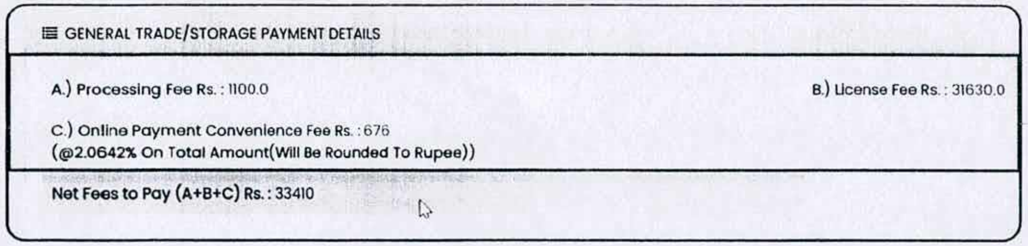
Learnings from benchmarks| Delhi and Mumbai charging convenience fee (2%) & scrutiny fee (INR 1,100) on top of license fee to further increase the revenue



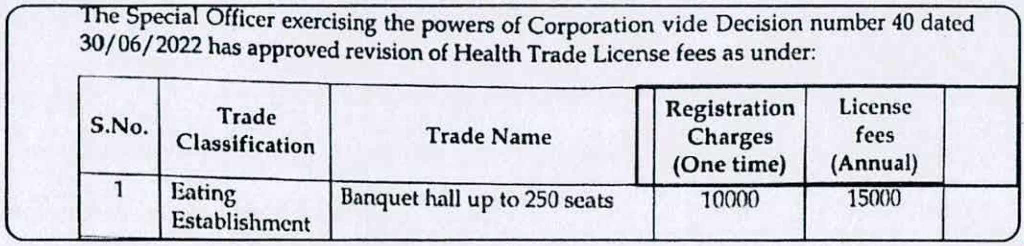
GENERAL TRADE/STORAGE PAYMENT DETAILS

A.) Processing Fee Rs. : 1100.0

B.) License Fee Rs. : 31630.0

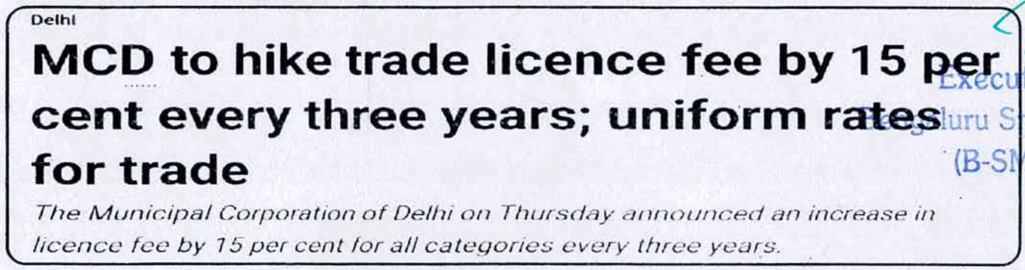
C.) Online Payment Convenience Fee Rs. : 676
(@2.0642% On Total Amount(Will Be Rounded To Rupee))

Net Fees to Pay (A+B+C) Rs. : 33410



The Special Officer exercising the powers of Corporation vide Decision number 40 dated 30/06/2022 has approved revision of Health Trade License fees as under:

S.No.	Trade Classification	Trade Name	Registration Charges (One time)	License fees (Annual)	
1	Eating Establishment	Banquet hall up to 250 seats	10000	15000	



Delhi

MCD to hike trade licence fee by 15 per cent every three years; uniform rates for trade

The Municipal Corporation of Delhi on Thursday announced an increase in licence fee by 15 per cent for all categories every three years.

1 **Online Payment & Scrutiny Charges:** Convenience fee (2.06%) and scrutiny fee (INR 1,100 - MCD, INR 200 - BMC) adopted in Mumbai & Delhi

2 **New Registration Fee Model:** Scope to introduce a revised framework, as implemented in New Delhi

3 **Periodic Fee Revision:** 15% increase every three years for structured adjustments (Delhi model)

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Additional Safeguards to Strengthen Compliance and Financial Sustainability: 2% Convenience Fee, 5% Annual Escalation, and Defined Renewal Timelines

1 Convenience fee

- 2% convenience fee to be levied on the total annual license fee
- Covers administrative processing and digital infrastructure costs
- Benchmarks: Delhi (MCD) and Mumbai (BMC)

2 Annual Escalation of License Fees

- 5% annual escalation on both per sq. ft. rates and max fee cap
- Ensures alignment with inflation and rising administrative expenses
- To be implemented on rates from base year 2025 onwards
- Benchmarks Delhi (MCD)

3 Renewal Timelines & Penalty Structure

- Renewal timelines and penalties to be printed on the license certificate:
  - 1-28 Feb: No penalty
  - 1-31 Mar: 25% penalty
  - From 1 Apr: 100% penalty

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Organizational Structure

Learnings from benchmarks| BMC has dedicated specialized sub-departments for each type of license, along with subject-wise qualified personnel

Qualified inspection workforce: Ward-level officers and inspectors possess minimum relevant qualifications to ensure effective inspections and optimal workforce utilization.

Trade licensing — 400+ Personnel in BMC

	Health license[1] ①	Trade and storage license[2] ②	Factory Licenses[3] ③	Veterinary license[4] ④
Issuing authority	Public health department	License department	Engineering department	Veterinary department
Ward level officer - qualification	Qualified MBBS doctor	Superintendent of license: B.Sc. Chemistry	Executive engineer: B.E. Civil	Deputy superintendent of market - veterinary degree
Inspector - qualifications	Sanatory inspectors - diploma	Inspectors - B.Sc. Chemistry	Assistant, Sub, and Junior engineers	Certified from all India institute of local self-gov.

BBMP Baseline: Currently, the Public Health Department oversees all trade licenses, including both health-related and non-health-related categories. To enhance efficiency, it is essential to allocate trade licensing responsibilities across relevant departments & have subject-wise qualified personnel for inspection and verification (150 Personnel in BBMP)

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1. Food & beverage processing retail shops, restaurants and cafes, gym and fitness etc. 2. Warehouses, Wholesale outlets, Hazardous material storage etc.
3. Manufacturing units and industrial workshops 4. Dairy farms, poultry farms, pet shops etc.

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Categories to be distributed across the 3 BBMP dept.—Public Health, Revenue, & Animal Husbandry; will follow a risk-based, tiered inspection schedule

Departmental Allocation of the trade categories

Trade	Categories	Department
Health Related trades	1,2,3,4,8,9, 10,11, 14	Public Health Department
Non-Health Related trades	5,6, 7,10,13	Revenue department
Animal Husbandry trades	12	Animal Husbandry Department

Risk based tiered inspection schedule

Risk Tier	Category	Inspection Frequency
High	Category 1 Food (Manufacturing/Processing) Category 8 Alcohol (Manufacturing/Retail) Category 9 Restaurants (serving/storing food/alcohol) Category 3 Industrial & Construction (Manufacturing) Category 14 NOCs (fireworks, fuel storage, etc.)	Once every quarter (4 times/year)
Medium	Category 2 Food (Retail/Wholesale/Storage) Category 4 Industrial & Construction (Retail/Wholesale) Category 6 Other Non-Food Trades (Retail/Storage) Category 10 Hotel and other Commercial Accommodation Category 5 Other Non-Food Trades (Manufacturing)	Once every 6 months (2 times/year)
Low	Category 11 Medical & Beauty/Fitness Category 12 Animal Husbandry Category 13 Power License Category 7 (Corporate Offices)	Once every year

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2. Technological Enablement

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Detailed system-level enhancements to be incorporated in the current trade licensing system to streamline licensing, enforce compliance, and simplify user access

- 2.1 Enable retrospective collection of Trade license fees for past years along with penalty to enhance revenue
- 2.2 Introduction of a Permanent Trade License ID to track Trade license for inspections
- 2.3 Additional information to be captured to enable cross-verification with existing databases
- 2.4 Real-Time Inspector Dashboard for Monitoring and Enforcement
- 2.5 Trader Self-Service Portal to initiate modification/change request directly via portal
- 2.6 Integrated Inspection Log for Monitoring and Accountability
- 2.7 UPI Integration in Payment Gateway to accelerate fee collections
- 2.8 Instant Provisional Trade license to boost license issuance

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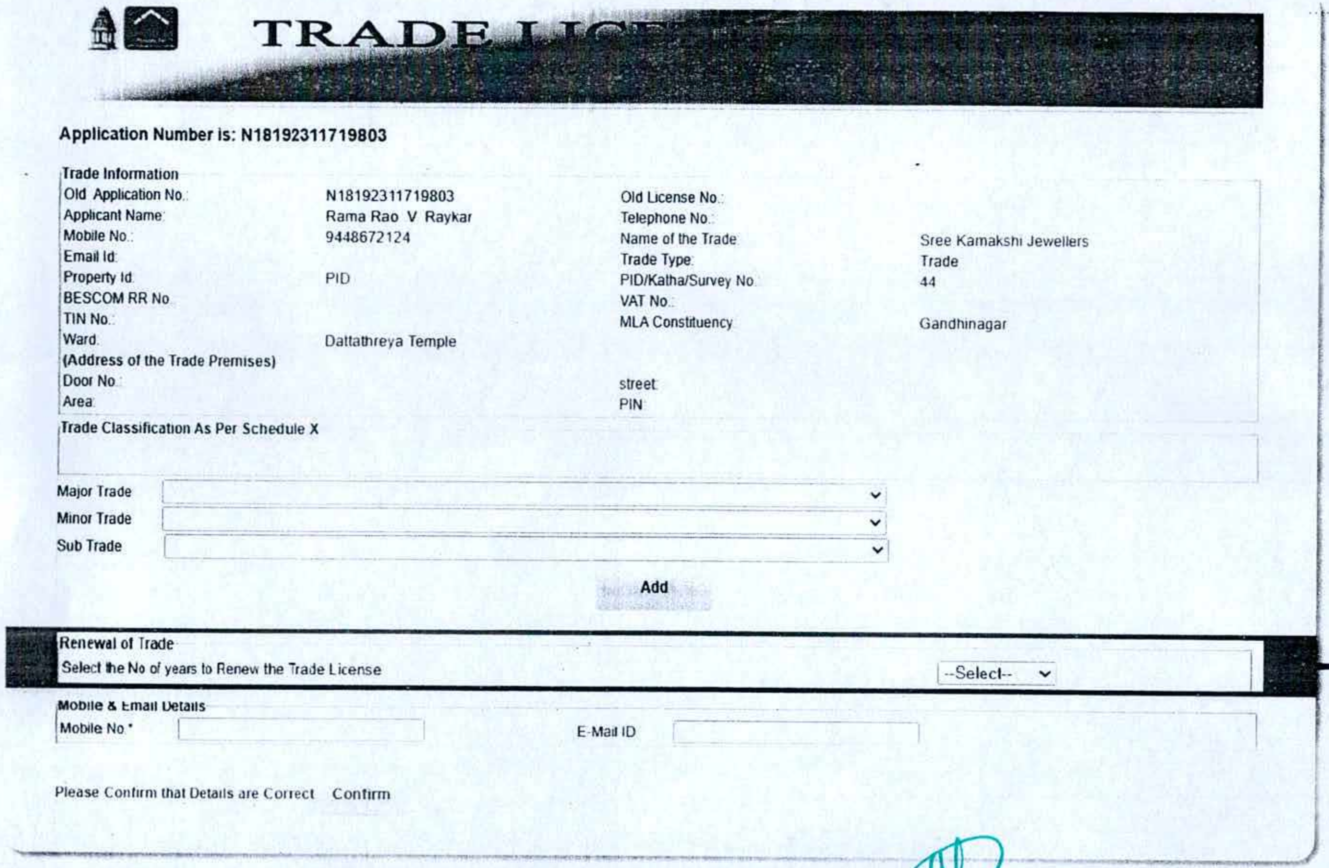
An option for retrospective payment of dues and penalties should be enabled for all past and new registrations, covering all applicable years



Application Number is: N18192311719803

Trade Information

Old Application No.:	N18192311719803	Old License No.:	
Applicant Name:	Rama Rao V Raykar	Telephone No.:	
Mobile No.:	9448672124	Name of the Trade:	Sree Kamakshi Jewellers
Email Id:		Trade Type:	Trade
Property Id:	PID	PID/Katha/Survey No.:	44
BESCOM RR No.:		VAT No.:	
TIN No.:		MLA Constituency:	Gandhinagar
Ward:	Dattathreya Temple		

(Address of the Trade Premises)

Door No.:		street:	
Area:		PIN:	

Trade Classification As Per Schedule X

Major Trade
Minor Trade
Sub Trade

Renewal of Trade

Select the No of years to Renew the Trade License --Select--

Mobile & Email Details

Mobile No.* E-Mail ID

Please Confirm that Details are Correct

Renewal and retrospective payment of dues should be permitted even for trades originally registered in FY19

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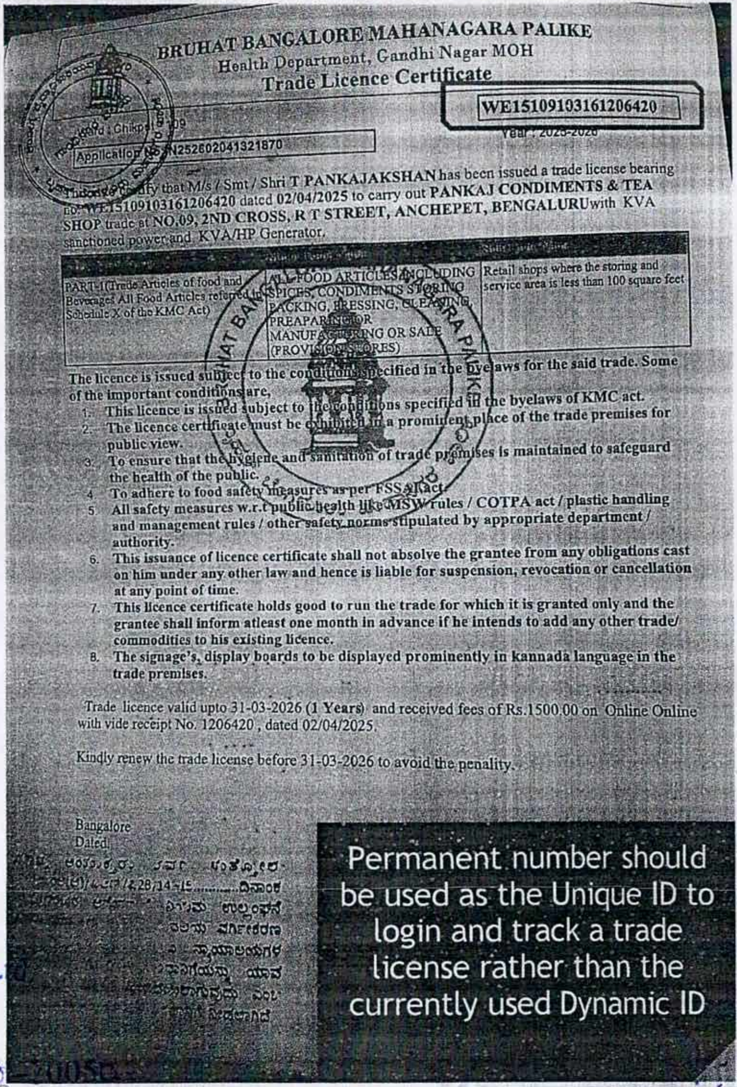
Introduction of a permanent trade license ID to enable consistent tracking, inspection, and login—replacing the current dynamic ID system



BRUHAT BANGALORE MAHANAGARA PALIKE
Health Department, Gandhi Nagar MOH
Trade Licence Certificate

WE151091031612064 20

Year : 2025-2026

Ward : Chikpet 109

Application No: N252602041321870

This is to certify that M/s / Smt / Shri **T PANKAJAKSHAN** has been issued a trade license bearing no. WE151091031612064 20 dated **02/04/2025** to carry out **PANKAJ CONDIMENTS & TEA SHOP** trade at **NO.09, 2ND CROSS, R T STREET, ANCHEPET, BENGALURU**with KVA sanctioned power and KVA/HP Generator.

PART-1(Trade Articles of food and Beverages All Food Articles referred in Schedule X of the KMC Act)	ALL FOOD ARTICLES INCLUDING SPICES, CONDIMENTS STORING PACKING, PRESSING, CLEANING, PREAPARING OR MANUFACTURING OR SALE (PROVISION STORES)	Retail shops where the storing and service area is less than 100 square feet

The licence is issued subject to the conditions specified in the byelaws for the said trade. Some of the important conditions are,

1. **This licence is issued subject to the conditions specified in the byelaws of KMC act.**
2. **The licence certificate must be exhibited in a prominent place of the trade premises for public view.**
3. **To ensure that the hygiene and sanitation of trade premises is maintained to safeguard the health of the public.**
4. **To adhere to food safety measures as per FSSAI act.**
5. **All safety measures w.r.t public health like MSW rules / COTPA act / plastic handling and management rules / other safety norms stipulated by appropriate department / authority.**
6. **This issuance of licence certificate shall not absolve the grantee from any obligations cast on him under any other law and hence is liable for suspension, revocation or cancellation at any point of time.**
7. **This licence certificate holds good to run the trade for which it is granted only and the grantee shall inform atleast one month in advance if he intends to add any other trade/ commodities to his existing licence.**
8. **The signage's, display boards to be displayed prominently in kannada language in the trade premises.**

Trade licence valid upto 31-03-2026 (**1 Years**) and received fees of Rs.1500.00 on Online Online with vide receipt No. 1206420 , dated 02/04/2025.

Kindly renew the trade license before 31-03-2026 to avoid the penality.

Bangalore
Dated

Permanent number should be used as the Unique ID to login and track a trade license rather than the currently used Dynamic ID

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Leverage unique IDs to detect unregistered commercial establishments & perform data reconciliation across existing databases to ensure compliance

1 Prospective Database integration

	Database	Unique Identifier to be integrated
1a	Most of the databases going forward under Single Window	**Pan Card Number**
1b	Commercial Property Tax	**Property Tax Number**
1c	Shops and Establishments	**Pan Card Number**
1d	Commercial taxes department	**GST Number**

2 Retrospective Database Cross verification

	Database	Unique Identifier for Verification
2a	Commercial Property Tax	**Phone Number**
2b	BESCOM Database	**BESCOM RR Number**

Next Steps

Get Database Access

1. Trade Licensing
2. Commercial property tax
3. BESCOM registration

→ **Data Reconciliation**

Cross-verify registered commercial establishments with the existing trade license database & identify the list of unregistered businesses

→ **Enforcement Action**

Issue notices to businesses operating without a valid trade license

Benchmarks

- Chennai (GCC): Used property tax data and issued quick follow-up notices, generating INR 12 Cr revenue in two months (2021 pilot)
- Hyderabad (GHMC): Cross-verifies property tax records to detect businesses on non-residential properties without trade licenses

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Introduction of 6 mandatory data fields to enable cross-departmental integration and strengthen trade license enforcement

Sl no	Information captured
1	GST Registration Number
2	PAN Number
3	Property Tax ID
4	Property dimensions (built-up area, layout, etc.)
5	Road width
6	Frontage of the property

- 1,2,3 will enable cross-verification with Commercial and Property Tax databases will allow BBMP to flag unregistered or misreported establishments and boost revenue recovery
- 4,5,6 will enable automatic filtration of eligible trades according to the zonal regulations for an Instant provisional license issuance

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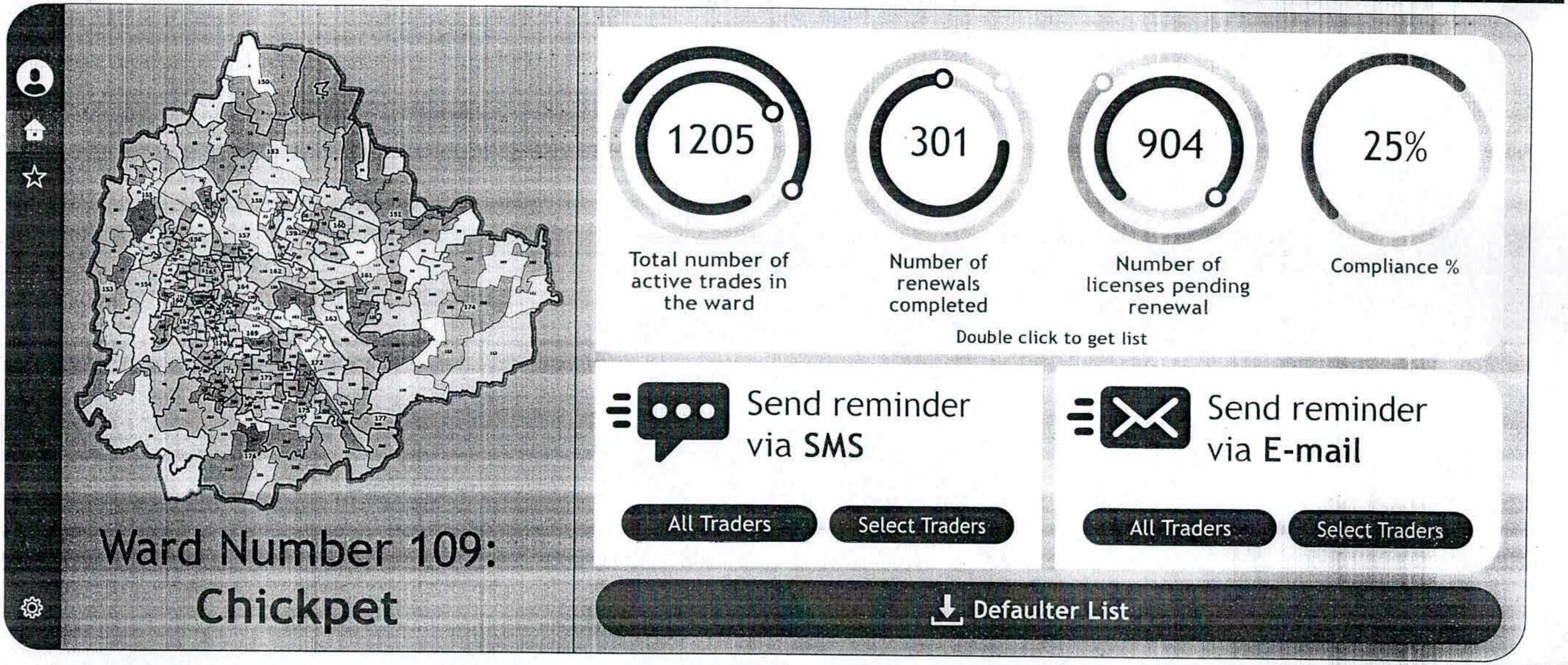
Real-time digital dashboard should be developed for Nodal Health Inspectors and designated officers, offering the following functionalities

Illustrative


1205
Total number of active trades in the ward
301
Number of renewals completed
904
Number of licenses pending renewal
25%
Compliance %
Double click to get list
Send reminder via **SMS**
All Traders
Select Traders
Send reminder via **E-mail**
All Traders
Select Traders
Defaulter List
Ward Number 109: Chickpet

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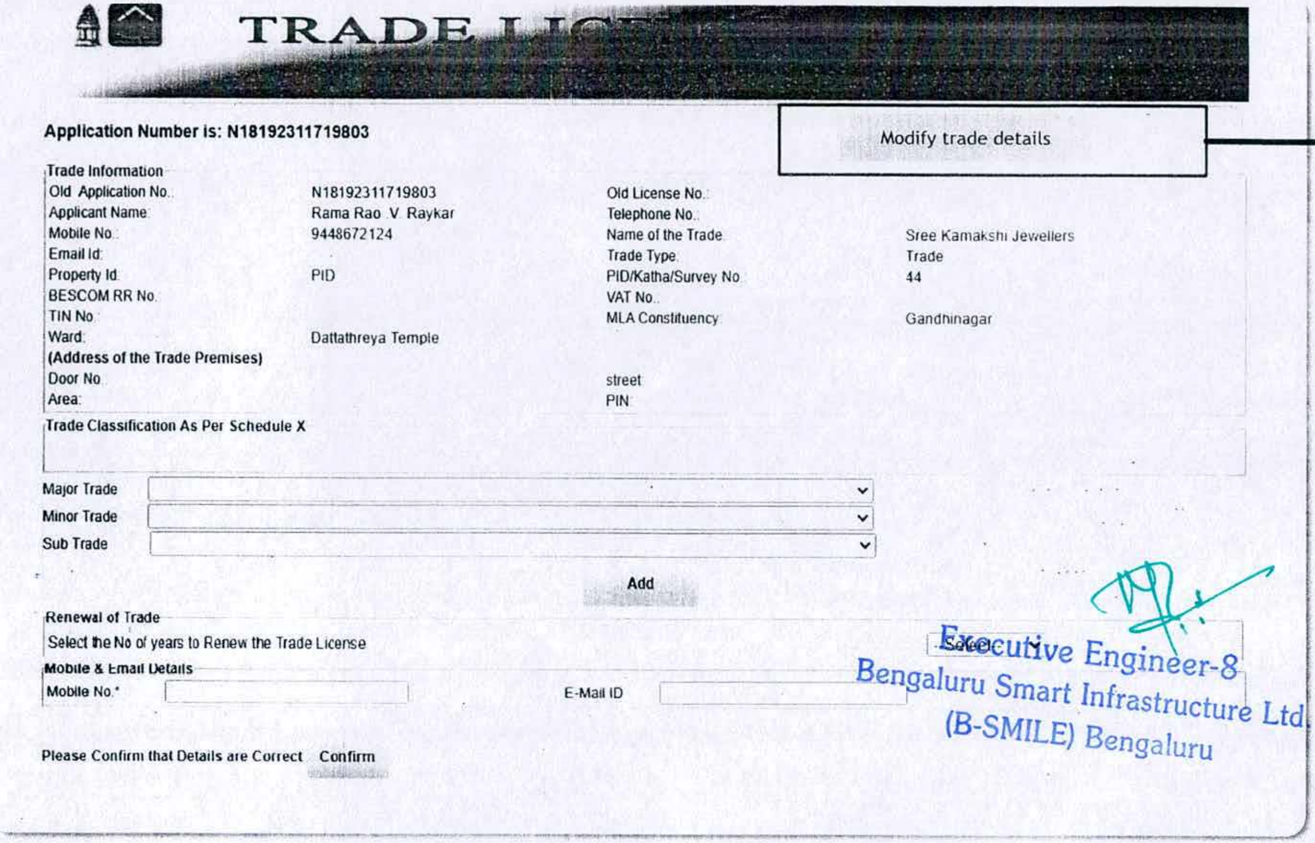
Enabling option for traders to update license details online with risk-based authority routing and 30-day approval time



Application Number is: N18192311719803

Modify trade details

Trade Information

Old Application No.	N18192311719803	Old License No.	
Applicant Name	Rama Rao V Raykar	Telephone No.	
Mobile No.	9448672124	Name of the Trade	Sree Kamakshi Jewellers
Email Id		Trade Type	Trade
Property Id	PID	PID/Katha/Survey No	44
BESCOM RR No.		VAT No.	
TIN No.		MLA Constituency	Gandhinagar
Ward	Dattathreya Temple		
(Address of the Trade Premises)			
Door No		street	
Area		PIN	

Trade Classification As Per Schedule X

Major Trade:

Minor Trade:

Sub Trade:

Renewal of Trade

Select the No of years to Renew the Trade License: Select

Mobile & Email Details

Mobile No.*:

E-Mail ID:

Please Confirm that Details are Correct

Traders can submit requests to modify their trade type, power load, or other establishment details directly through the portal, with each request automatically routed to the appropriate approving authority (CHO, HO, DHO, or MOH) and processed within a stipulated 30-day timeframe

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Inspector dashboard to be developed for tracking missed or delayed inspections and flagging unresolved non-compliance

Illustrative

[illegible]

Date: 30/10/2025

Ward Number 109: Chickpet

Senior Health Inspector Name

MOH Name

Inspection Log

Trade Unique ID	Last renewed	License Valid till	Number of Inspections needed/year	Number of inspections done in FY	Status of compliance	Action Taken	Inspection Pending
ABC123	25/02/2025	28/02/2026	4	1 2 ❸ 4	✓	-	
ABC124	20/02/2025	28/02/2026	4	1 ❷ 3 4	✓	-	!
ABC125	23/02/2025	28/02/2026	2	❶ 2	✕	upgrade power load	!
AVC126	18/02/2025	28/02/2026	2	1 ❷	✕	Add another trade	!
ABC127	14/02/2025	28/02/2026	1	❶	✓	-	
ABC128	10/02/2025	28/02/2026	4	1 2 ❸ 4	✓	-	

The Inspector Dashboard will include an Inspection Log that tracks compliance status for each trade license, flags missed or delayed inspections and continuously alerts for unresolved non-compliance from the last inspection

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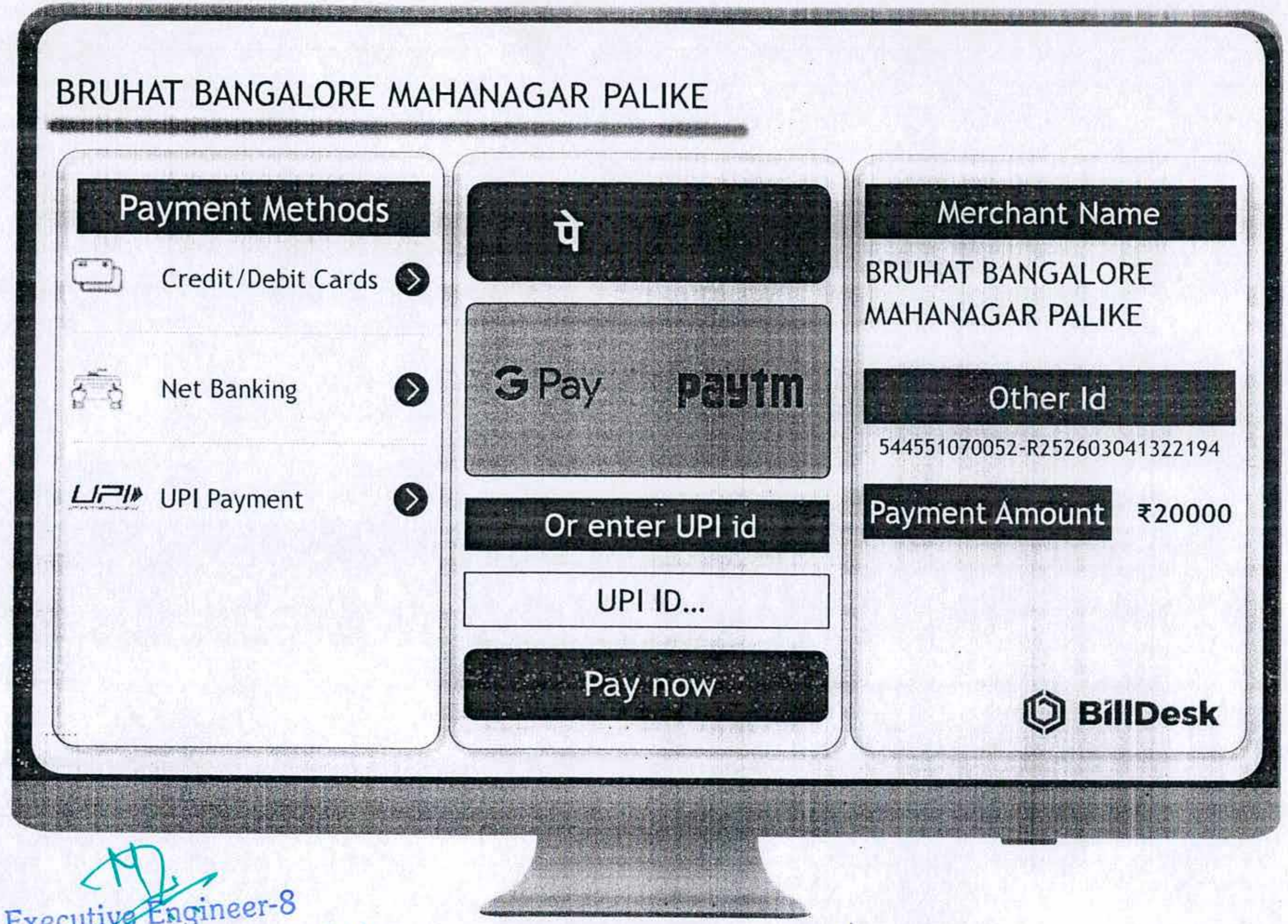
UPI-based payment options such as Google Pay, PhonePe, and Paytm should be integrated alongside existing methods (net banking, debit/credit cards) to minimize transaction delays and promote higher voluntary compliance



BRUHAT BANGALORE MAHANAGAR PALIKE

Payment Methods

- Credit/Debit Cards
- Net Banking
- UPI Payment

Or enter UPI id

UPI ID...

Pay now

Merchant Name	BRUHAT BANGALORE MAHANAGAR PALIKE
Other Id	544551070052-R252603041322194
Payment Amount	₹20000

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Provisional trade license issuance to be introduced enabling instant operations with 90-day verification and approval cycle

① **Online Application Submission**	Trader submits an online application along with all required details and a self-declared affidavit
② **Instant Issuance of Provisional Trade License**	An automated, over-the-counter Provisional Trade License is generated immediately upon submission, ensuring zero delay in initial approval
③ **Application Scrutiny and Field Inspection**	Designated officers conduct verification of submitted information and undertake on-ground inspections within 60 days of issuance
④ **Regularization of Trade License Issuance**	If all details are found to be accurate, the provisional license is regularized and converted into a Final Trade License within 90 days, adhering to the Sakala service delivery standards
⑤ **Rejection or Cancellation (If Applicable)**	If the information is found to be false or if verification is not completed within the stipulated time, the Provisional License is automatically cancelled

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3 Collection Drives

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ಅಡಿಯಲ್ಲಿ ನೀಡ

Targeted collection drives to be planned to accelerate compliance and revenue in high-density commercial hubs

1. **Map High-Density Commercial Clusters**

   Identify priority zones with high trade activity and low license penetration like Chickpet/ Gandhinagar

2. **Issue Compliance Order & Delegate Field Powers**

   Authorize MOHs and zonal teams to conduct on ground licensing enforcement (with explicit clarification that the current exemptions stand revoked)

3. **Set Up Mobile registration Camps**

   Deploy zonal teams with POS machines, tablets, and preloaded forms;

4. **Enable Instant Provisional License Issuance**

   Generate on-the-spot certificates with validity up to 28 Feb 2026; accept digital payments.

5. **Fees and Penalties**

   License Fee as per the existing rate structure and a flat penalty equivalent to 100% (previously unregistered business) of the annual license fee will be levied

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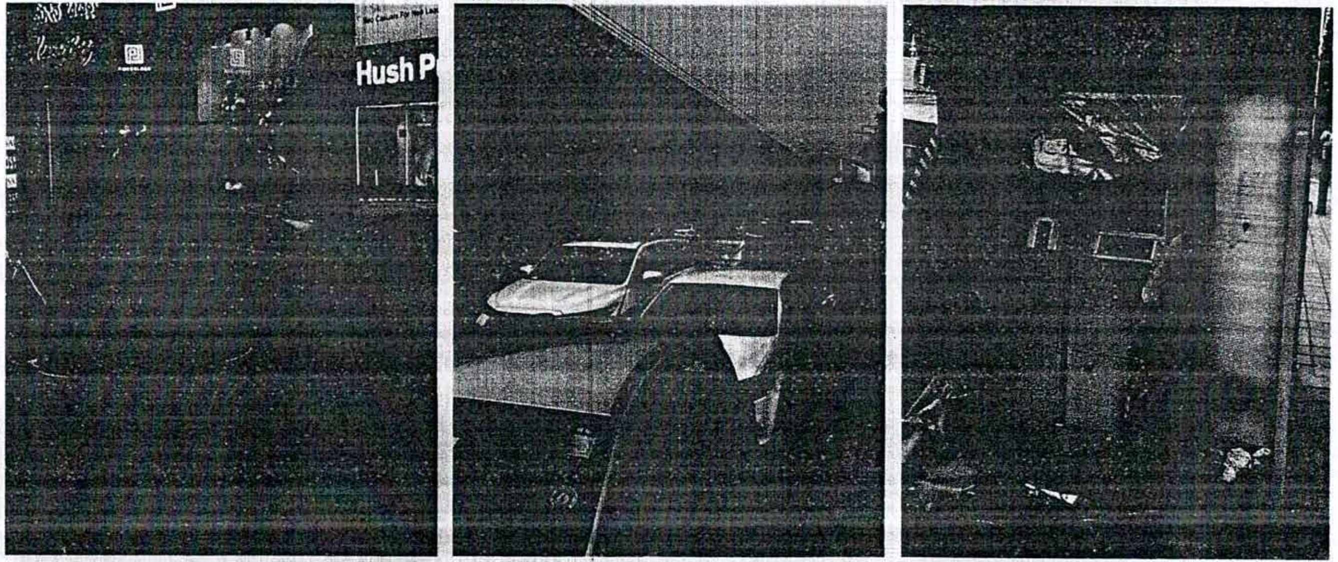
Scope to organize current parking on BBMP roads and make the tenders more scientific, structured, and robust to ensure successful bidding outcomes

P Status Quo of current on-street parking situation in BLR



On Commercial Street, parking is informally managed by local trade association helpers

MG Road: Many vehicles park in the second lane, causing congestion due to lack of monitoring

Previous vendor's smart parking machines were disabled/vandalized after the contract ended

- 2020—DULT released the official Parking Policy for Bengaluru
- 2022—City-wide smart parking tenders launched (700+ roads); failed due to limited monetizable roads
- 2023 onwards—Zonal-level tenders initiated; multiple rounds unsuccessful
- East Zone—Tender floated thrice in 2025 without success
- Assessing East Zone failed RFPs to ensure robustness and scalability

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Market feedback gathered and benchmarking conducting to understand pain points and gather best practices for on street parking

Market Feedback Gathered

Stakeholders Met

Department	
EE Traffic Engg. Cell	Mr. Arif
AEE Traffic Engg. Cell	Mr. Devaraju
DULT Technical Head	Mr. Shamanth
EIC	Prahallad
Private Players	
MD, Sotefin Parking	Mr. Jignesh
MD, Rights Parking (Freedom Park)	Mr. Kumar
MD, Park plus	Mr. Yogiraj Gogia
MD/Founder, CPS	Mr. Satyanarayan

1.High Reserve Bid: Set at 60% of projected revenue–financially unviable

2.Unviable Bundling (2022): Non-monetizable roads included, limiting private interest for a large-scale rollout

3.Weak Enforcement: No towing by traffic police; illegal parking continued unchecked - leading to revenue leakage

4.Tech Adoption Issues: Users struggled in adopting tech.; manual support still needed - making it financial unviable

Benchmarking conducted: Delhi, Mumbai, Chennai

1. **Longer Concession Period:** Concession of 2-5 years to ensure commercial viability
2. **Proven parking collection Model:** Sensor-based systems failed in CP and Bangalore; smart POS-based parking management is the norm in leading cities
3. **Revenue Model:** Reserve annual license fee bid given by the private player upfront to the authority
4. **Dedicated Lane Allocation:** Parking permitted only on one side with clearly demarcated slots to avoid encroachment
5. **24×7 Operations:** Ensures round-the-clock enforcement and organized parking
6. **Reserve Bid:** Typically set at 30-40% of projected revenue
7. **Defined Penalty Clauses:** Clear enforcement obligations with penalties for non-compliance

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9 changes suggested to failed East zone tender based on market feedback and benchmarking

Area	Current Clause	Proposed Improvement
❶ Parking Slot Mapping	No detailed slot demarcation; subsidiary roads not listed	Include road-wise 2W/4W slot drawings; list subsidiary roads to authorize enforcement and reduce leakage
❷ Annual License fee Calculation	No structured calculation method	Upfront annual minimum license fee (bid parameter) shall be charged for the grant of parking rights; this fee will range between 30% to 40% of the projected revenue (varying on road occupancy), to maintain 20%> PAT margin for pvt. player
❸ Concession Period	1-year term only	Extend to 3 years + 2-year extension based on performance (similar to MCD benchmark)
❹ Security Deposit	5% of Annual Quoted License Fee	Increase to 10%, in line with MCD/BMC (approx. 3 months fee for 2-3 year terms)
❺ Operational Hours	12-hour limit	Extend to 24x7 operations; allow flexible night warden deployment based on demand
❻ Penalty Framework	No defined penalties	Introduce structured penalty schedule for major/minor violations to ensure operator accountability
❼ Scope of Work	Limited detail on user journey, citizen interface, and operational obligations	Revise scope to prioritize public outcomes, digital operations, continuous data driven monitoring by authority and measurable performance expectations, defined infra & service norms - cameras, VMS boards, towing of vehicles, etc.
❽ Financial Eligibility	Stricter criteria	Criteria eased to boost participation: 50% of reserve bid in parking fee collections, 100% turnover in 2 of last 3 years, & credit access of at least 50% of reserve bid
❾ Rate Card	No provision for day/ month passes	Add day pass (>5 hours) and monthly pass options to improve user affordability and ease, as done in MCD/BMC tenders

Tenders to be floated for MG road and 13 other prioritized roads in east zone for on street parking collection

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Key terms of proposed MG Road Parking RFP

Clauses	Description
Revenue Model	Upfront fixed annual license fee (H1 bidder) shall be charged for granting parking rights - fixed for 3 years, no escalation
Concession Period	3 years + 2-year extension based on performance
Operational Hours	24/7 throughout the year
Min. Reserve license fee	INR 70 Lakh (Assumed slots - 97 (4W) and 106 (2W); 24-hour occupancy estimated at ~76% (4W) and ~78% (2W))
Earnest Money Deposit	INR 1,40,000 (2% of the minimum license fee)
Eligibility Criteria	Financial eligibility criteria have been relaxed to enhance participation: (i) Historical Parking fee collections of at least 50% of the minimum reserve bid (INR 35 lakhs) (ii) Financial turnover equal to 100% of the min. reserve bid in any 2 of the last 3 years (INR 70 Lakhs) (iii) Access to credit facilities not less than 50% of the minimum reserve bid (INR 35 Lakhs)
Winning Bidder Criteria	Bidder quoting the highest fixed annual license fee (above min. reserve) shall be designated as H1 bidder
Performance Security	10% of the minimum reserve bid (INR 7 Lakh), in line with the BMC and MCD benchmarks
Approved Tariff Rates	See tariff table below. *With a maximum of 30% of slots given as monthly pass
Payments to BBMP	Annual - made within 15 days from the date of receipt of the Letter of Acceptance and phase-wise payments shall be made at least 15 days prior to the commencement of operations for the respective phase
Service, Infra and equipment requirements	Surveillance CCTV cameras - every 100 meters (4K, night vision), standardized pay-and-park boards (every 150m), road markings with studs, LED VMS boards (4G-enabled), Smart POS machines, adequate on-ground staff, Towing away of vehicles parked outside of dedicated slots,
Penalty Schedule	The penalty schedule is structured to discourage deviations from the RFP clauses and scope of work, including violations such as overcharging beyond prescribed rates or failing to provide real-time collection data to BBMP (refer RFP for details)

Approved Tariff Rates:

	Parking charges (INR)	
	4W	**2W**
Per Hour	30	15
Full day	150	75
Full Month	3000	1500

*With a maximum of 30% of slots given as monthly pass

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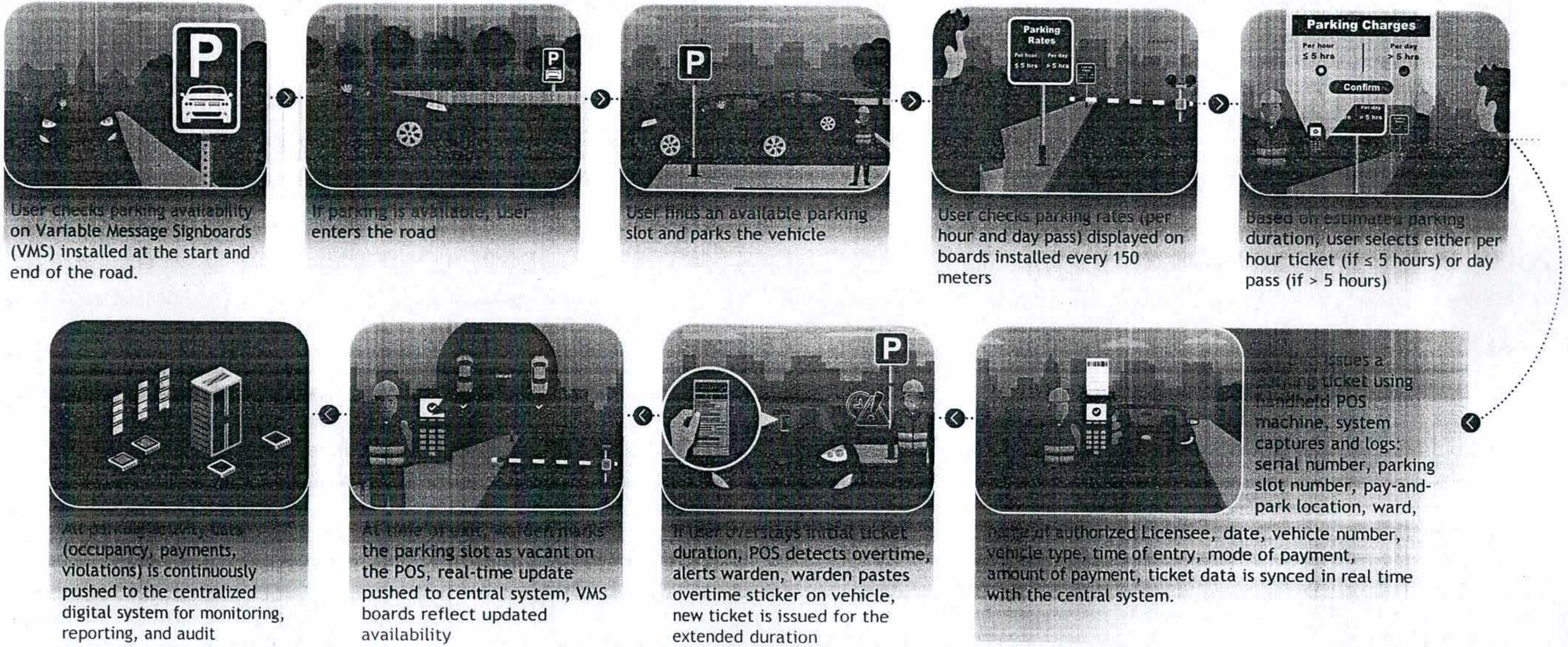
User journey used to define scope of work of Parking tender pilots



User checks parking availability on Variable Message Signboards (VMS) installed at the start and end of the road.

If parking is available, user enters the road

User finds an available parking slot and parks the vehicle

User checks parking rates (per hour and day pass) displayed on boards installed every 150 meters

Based on estimated parking duration, user selects either per hour ticket (if ≤ 5 hours) or day pass (if > 5 hours)

Warden issues a parking ticket using handheld POS machine, system captures and logs: serial number, parking slot number, pay-and-park location, ward, name of authorized Licensee, date, vehicle number, vehicle type, time of entry, mode of payment, amount of payment, ticket data is synced in real time with the central system.

If user overstays initial ticket duration, POS detects overtime, alerts warden, warden pastes overtime sticker on vehicle, new ticket is issued for the extended duration

At time of exit, warden marks the parking slot as vacant on the POS, real-time update pushed to central system, VMS boards reflect updated availability

At parking entry, data (occupancy, payments, violations) is continuously pushed to the centralized digital system for monitoring, reporting, and audit

In the event BBMP develops or deploys a centralized digital application for citizen convenience, the Licensee shall ensure that all internet-based handheld devices used for parking operations are integrated with such an application, as and when directed by BBMP

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List of 14 prioritized roads for tender in east zone; some nearby low potential roads to be bundled with high potential roads to enhance bidder uptake

	#	Description
	1	From Commercial Street (Kamaraj Road) To O.P.H.Road
❶	2	From Dispensary Road (OPH Road) To Kamaraj Road
	3	Miller Road (Saffina Complex) To Chandrika Junction
	4	From Brigade Road (M.G.Road Signal) To Rex Theatre
	5	Wood Street & Castle Street
	6	From Magrath Road (Shoppers stop)To Hosmat Hospital
	7	From Langford Road (SAI) To Nanjappa Circle
❶	8	Main Guard Road (Saffina Signal) to Dispensary Road
	9	Dickenson Road
	10	From Crescent Road (M.G.Road) To Resthouse Road
❷	11	From Church Street (M.G.Road) To St.marks Road
❷	12	From Museum Road (Post Office) To M.G.Road
	13	Lavelle Road And Kasturba Road
	14	M.G. Road (From Mayo hall Court Signal to LIC Building)
	15	Residency Road
	16	St. Mark's Road
	17	State Bank of India Road
	18	Lavelle Road
	19	Rest House Road
	20	Vittal Mallya Road

XX *Bundles*

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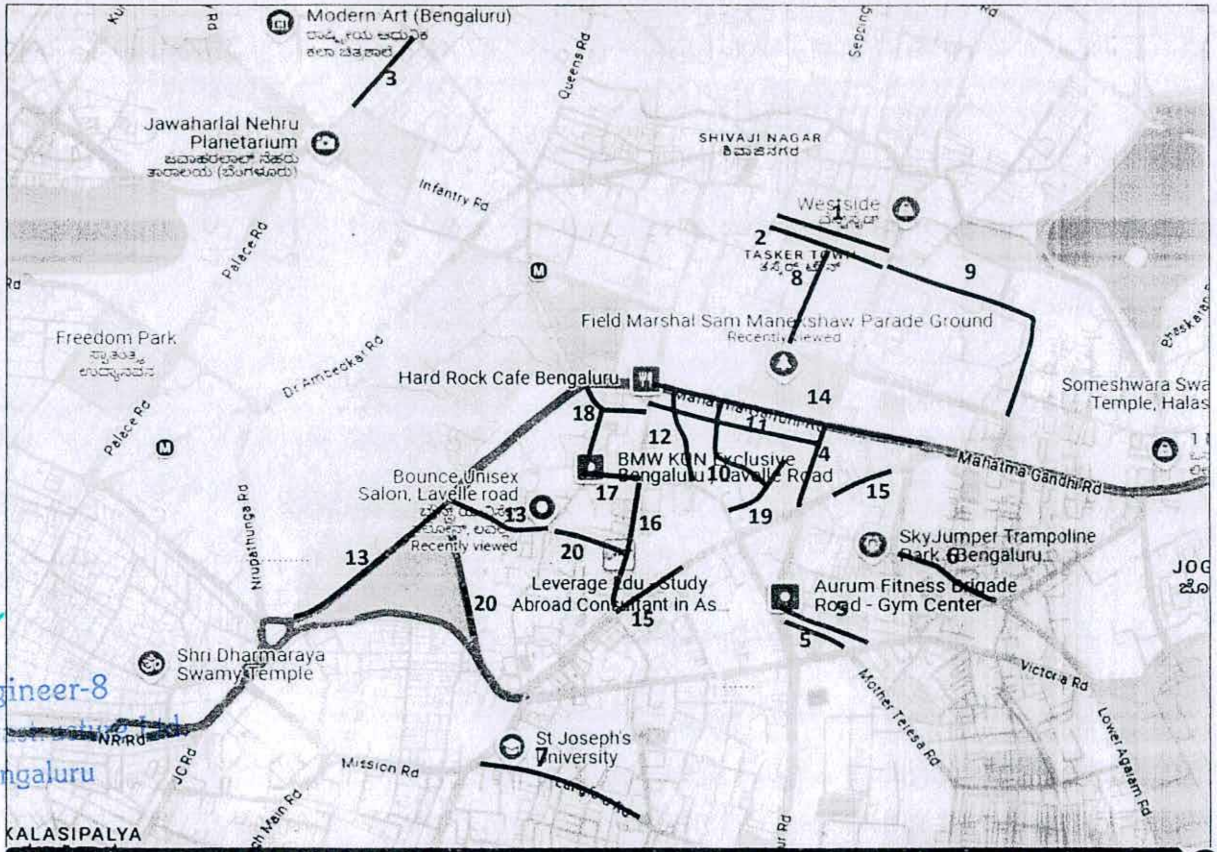
Modern Art (Bengaluru)
ರಾಷ್ಟ್ರೀಯ ಆಧುನಿಕ ಕಲಾ ಚಿತ್ರಶಾಲೆ
3
Queens Rd
Jawaharlal Nehru Planetarium
ಜವಾಹರಲಾಲ್ ನೆಹರು ತಾರಾಲಯ (ಬೆಂಗಳೂರು)
SHIVAJI NAGAR
ಶಿವಾಜಿನಗರ
Infantry Rd
Palace Rd
Westside
2
1
TASKER TOWN
8
9
Freedom Park
ಸ್ವಾತಂತ್ರ್ಯ ಉದ್ಯಾನವನ
Dr Ambedkar Rd
Field Marshal Sam Manekshaw Parade Ground
Recently viewed
Hard Rock Cafe Bengaluru
18
14
12
11
Mahatma Gandhi Rd
Someshwara Swa Temple, Halas
BMW KUN Exclusive Bengaluru
10
Lavelle Road
4
15
Bounce Unisex Salon, Lavelle road
17
13
16
19
Recently viewed
20
SkyJumper Trampoline Park Bengaluru
6
Nrupathunga Rd
Leverage Edu - Study Abroad Consultant in As...
20
15
Aurum Fitness Brigade Road - Gym Center
5
Shri Dharmaraya Swamy Temple
Victoria Rd
Mother Teresa Rd
Lower Agaram Rd
NR Rd
JC Rd
St Joseph's University
7
Mission Rd
KALASIPALYA

Deep dive ahead of 14 M.G. Road (From Mayo hall Court Signal to LIC Building) ✓

1. There are some other commercially dense roads marked on the map but not prioritized for first pilot tender: 15 - Residency Road, 16 - St. Mark's Road, 17 - State Bank of India Road, 18 - Lavelle Road, 19 - Rest house road, 20 - Vittal Mallya Road

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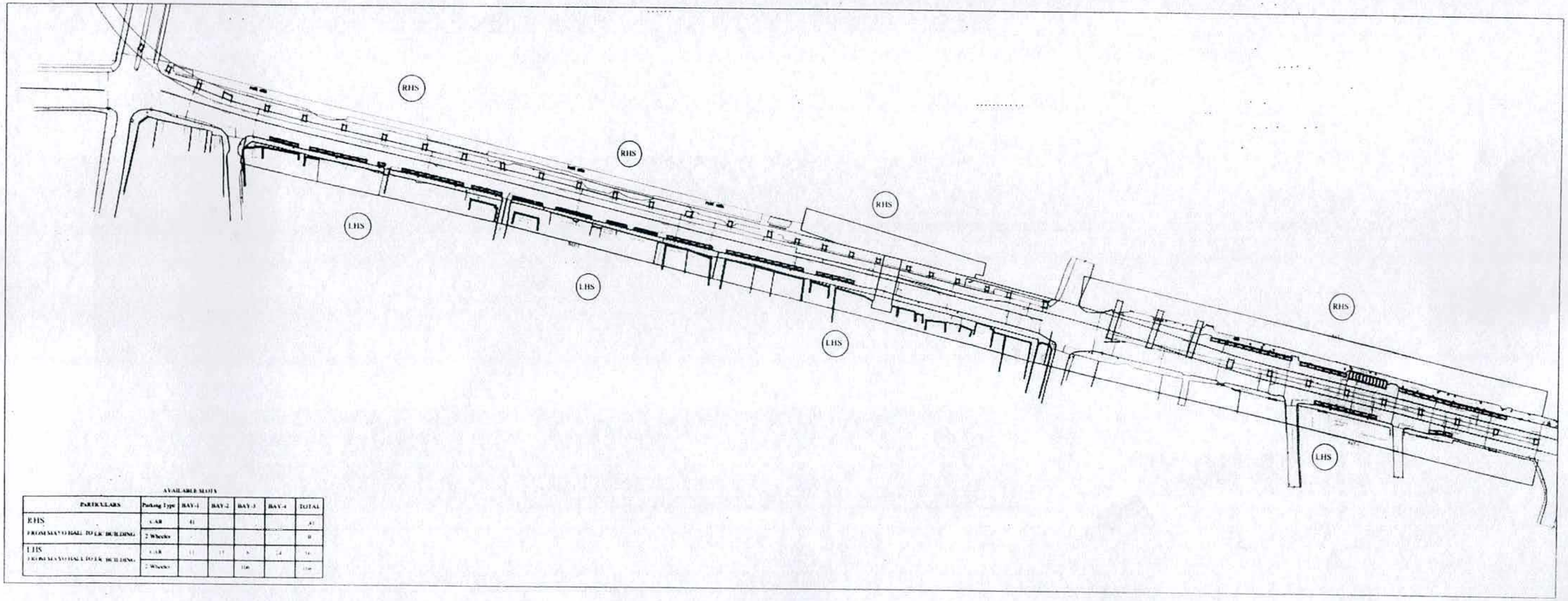
Example: MG Road



AVAILABLE SLOTS

PARTICULARS	Parking Type	BAY-1	BAY-2	BAY-3	BAY-4	TOTAL
RHS FROM MAYO HALL TO LIC BUILDING	CAR	41				41
	2 Wheeler					0
LHS FROM MAYO HALL TO LIC BUILDING	CAR	11	17	[illegible]	24	[illegible]
	2 Wheeler			[illegible]		[illegible]

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Revenue estimation and reserve bid determination based on scientific methodology using mapped parking slots and traffic survey occupancy data

Mapping of parking slots on M.G. Road (From Mayo hall Court Signal to LIC Building)

Illustration of MG Road	
4 Wheelers Slots	97
2 Wheelers Slots	106
Kilometers of Road	1.07 Km

Traffic survey conducted to determine the occupancy rates of 2W and 4W

Illustration of MG Road	Exact Occupancy	Assumed Occupancy
4 Wheelers Occupancy (weighted average across slots - 24 hours)	78.4%	70%
2 Wheelers Occupancy (weighted average across slots - 24 hours)	56.4%	50%

Assuming 70% and 50% occupancy for 4W and 2W respectively

Calculated Potential Revenue p.a. from MG road parking	**INR 181.9 Lakh**
Calculated upfront annual license fee for the authority	**INR 72.8 Lakh**
Average Margin for contractor	**>20%**

Key Assumptions

◈ Breakdown of Parking categories:
- 30% slots given as monthly pass (maximum allowed)
- 10% slots taking daily pass
- 60% slots taking hourly pass

◈ Rate Card

	Parking charges (INR)	
	4W	**2W**
Per Hour	30	15
Full day	150	75
Full Month	3000	1500

◈ Other Parameters:
- 5 years of concession period is taken, assuming the extension will be given after 3 years for another 2 years
- The annual license fee payable to BBMP by the private player will remain fixed for the 5 years

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Scientific determination of reserve license fee, based traffic occupancy survey and on-ground slot mapping; while ensuring >20% margin for the private player

Concession Period:

3 years, extendable by up to 5 additional years based on performance

Upfront Annual license fee:

Upfront annual minimum license fee (bid parameter) shall be charged for the grant of parking rights (30% - 40% of the projected revenue, varying on road occupancy)

Profit Allocation:

The private partner retains a minimum 20% post-tax (PAT) margin

Illustration of MG Road RMLF

		INR Lakhs				
	Quantity	Year 1	Year 2	Year 3	Year 4	Year 5
Revenue		181.9	181.9	181.9	181.9	181.9
Capex[1]						
Surveillance Cameras	12	2.4				
Parking Boards	16	0.3		0.3		
Road Markings	1355.6 sqm	2.0		2.0		
Road Studs	609	4.3		4.3		
Installation and setup (poles, cabling, testing)	1.07 Km	2.14		2.1		
VMS Boards (outdoor LED boards with 4G)	4	10				
		21.2		8.8		
Opex[1]						
POS Machines[2]	26	4.7	4.9	5.2	5.4	5.7
4-W Warden Salaries	11	27.0	28.4	29.8	31.3	32.8
2-W Warden Salaries	9	16.2	17.0	17.9	18.8	19.7
Electricity Cost - VMS	4	0.1	0.1	0.1	0.1	0.1
Connectivity (Data SIMs)	26	0.9	1.0	1.0	1.1	1.1
		48.9	51.3	53.9	56.6	59.4
Minimum annual payment to Authority	40%	72.8	72.8	72.8	72.8	72.8
PBT		39.1	57.8	46.5	52.6	49.7
PAT		29.3	43.4	34.9	39.4	37.3
PAT Margin for contractor		16.1%	23.8%	19.2%	21.7%	20.5%

1. Market rates by experts, Warden Salary: INR 20,000/month (8-hour shift) Total warden shifts per Day: 20
2. POS machines 26 (with 25% buffer)

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Fixed period sampling adopted for occupancy calculation; 5-10% haircut taken

Method Adopted		Fixed Period Sampling			Average Occupancy %age							
Bay	Side	Available Slots	Vehicle type	Slots	6AM TO 8.00AM	8AM TO 12.00PM	12PM TO 5PM	5PM TO 10PM	10PM TO 12.AM	12AM TO 6.AM	TOTAL AVERAGE	Weighted Average Occupancy (%)
M G Road from Mayo hall to LIC Building												
BAY-1	LHS		3 Wheeler	8								
			2 Wheeler	6								
		11	Car	4	90.91	55.68	84.85	124.68	67.58	18.60	73.71	70.8
	RHS		3 Wheeler	5								
			2 Wheeler	11								
		41	Car	4	25.20	74.39	153.33	78.34	15.77	3.70	58.46	65.0
BAY-2	LHS		3 Wheeler	2								
			2 Wheeler	6								
		15	Car	1	53.33	148.47	227.11	153.81	52.22	13.43	108.06	116.3
	RHS		3 Wheeler	1								
			2 Wheeler	0								
		15	Car	1	29.11	32.22	46.44	95.71	35.33	4.85	40.61	41.6
BAY-3	LHS		3 Wheeler	6								
		106	2 Wheeler	24	26.60	74.65	141.89	47.44	6.98	6.69	50.71	56.4
		6	Car	8	164.44	81.94	165.56	226.98	170.00	33.84	140.46	131.8
	RHS		3 Wheeler	0								
			2 Wheeler	0								
			Car	1								
BAY-4	LHS		3 Wheeler	3								
			2 Wheeler	20								
		24	Car	10	89.58	127.17	146.11	64.19	56.25	54.92	89.70	90.9
	RHS		3 Wheeler	0								
			2 Wheeler	0							80.25	
			Car	2								
											Average 2W Occupancy	56.4%
											Average 4W Occupancy	78.4%

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   - 3.3. Deep-dive: Property Tax 112
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5. Project Control and Monitoring Framework 233
   - 5.1. Framework for Project Monitoring, Review and Governance 234
   - 5.2. Performance Based Maintenance Contracting for Roads 266

6. Organization Structure for B-SMILE 280

7. BBMP Training Plan 289

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Innovative sources of financing| Five potential sources available to BBMP for funding upcoming urban projects

	① Debt related instruments	② Green Bonds	③ Sustainability-linked Bonds	④ Carbon Credits	⑤ Blended Finance
Issuing Entity Examples	DFIs, BDBs and MDBs: ADB, WB, JICA, Kfw, HUDCO, PFC, NABARD, GCF, CTF, Bezos Earth Fund	Municipal Corp: & other Public Agencies: Pimpri Chinchwad, Indore, Ghaziabad, Vadodara and Ahmedabad Municipal Corporations, PFC, REC	Ultratech, JSW, Adani	ULBs & SPVs: Indore Smart City, Varanasi Smart City, REC Ltd, State Forest Dept.	Pooled vehicle gathering funds from pvt. entities such as NaBFID, NABARD, PFC, & the World Bank, along with philanthropic capital
Usage of Funds	Metro, Sub-urban rail, Road, Solar and Wind Projects, Rainwater Harvesting	Sewage and waste treatment, water supply and urban Infrastructure, solar Projects	Reducing GHG emissions, Carbon emissions, improving energy efficiency	Monetize GHG reductions via solid waste, bio-methanation, afforestation, solar	Climate resilience-related projects like public transport, electric transport, resilient infra.
Rate of interest	Ranges between 6-9%	Muni Corp: ~8.1-8.25%, PSU: 2-5% +Transaction (1-2%)+ Hedging costs (2-3%)	3-6% + Transaction costs(1-2%)+ Hedging costs (2-3%)	Indore Smart City earned credits @ USD 0.5/tCO_2(Domestic benchmark)	Potential 6-7% in an established Blended finance facility e.g., Goa
Tenure	~5-20 years	~3-10 years	7-10 years	7-10 years	~5-20 years
Currency	USD, Euro, INR, Yen	Muni Corp: INR PSUs: USD, Euro, INR, Yen	USD	USD (dominant in voluntary international markets)	USD, Euro, INR, Yen

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A wide range of potential funding institutions available to support BBMP's ongoing and upcoming urban infrastructure projects

Bilateral Development Organizations

- Proparco AFD (France)
- IFU (Denmark)
- Kfw, GIZ (Germany)
- JICA (Japan)
- FMO (Netherlands)
- UK Aid, FCDO (UK)

Multilateral Development Banks

- World Bank, IFC
- ADB
- AIIB
- NDB
- IDB
- EIB

Indian DFIs/Govt. Financing Institutions

- SIDBI
- NABARD
- HUDCO
- IREDA
- NaBFID
- PFC, REC

Climate Focused Institutions

- Alterra Fund
- Global Energy Alliance for People and Planet (GEAPP)
- Net Zero Banking Alliance
- Global Environment Facility (GEF)
- Green Climate Fund (GCF)
- Eversource
- Adaptation Fund
- Climate Investment Fund (CIF)
- Macquarie & Green Investment Group
- Italian Climatic Fund

Indian DIIs/Cash Rich Institutions

- LIC
- GIC

Global FIIs (E.g., Pension Funds)

- CDPQ
- OTPP
- CPPIB
- PSP investments
- OMERs

Global Banks

- BNP Paribas
- JPMC
- HSBC
- Standard Chartered
- Citi

Indian Banks

- SBI
- ICICI, HDFC
- Axis
- Bank of Baroda
- PNB

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5+ conversations held with prioritized funding institutions (I/II)

Potential funder	Status update
① **Housing and Urban Development Corporation (HUDCO) Limited** *POC: S Gurudatta, Regional Chief, HUDCO*	- HUDCO has extensive experience funding large-scale urban and infrastructure projects across Indian cities - Past funded examples include Peripheral Ring Road (PRR) by BDA in Bengaluru (INR 27,000 Cr sanctioned for land acquisition and construction) - HUDCO specializes in funding urban development bodies, municipal corporations, and state agencies - **Loan application for tunnel currently WIP:** Rate offered for our project is 8.95% p.a. - structured as 1-year fixed, monthly rest, monthly payable basis (HUDCO card rate of 9.05% minus 0.10% rebate) - Financing is typically backed by state support or project revenue models
② **International Finance Corporation (IFC)** *POC: Neeraj Gupta, Principal Investment Officer, Sub National Investments, IFC*	- IFC has a strong track record of financing core urban infrastructure at the city/municipal level in India - Key past projects: Pune (sewage & wastewater), Pimpri-Chinchwad (public hospital), and Vizag - all with CRISIL CR-5 rated ULBs - These were INR 500-600 Cr EPC-mode projects with 3-year moratorium and 12-year repayment structures - IFC's primary instrument is long-tenure debt, typically 10-15 years - Pricing is benchmarked to MIOS + risk premium; BBMP may fall in the range of "MIOS +200 - 250 bps" range based on an expected CR 10-11 rating; Fixed-rate debt structures are also possible - Structuring enhancements like escrow accounts and a state guarantee from GoK can improve pricing & terms - IFC has concessional sustainability-linked funds; if pre-agreed KPIs are met, cost can reduce by 10-20 bps - For BBMP to access IFC funding, a formal credit rating is the first critical step - BBMP should also focus on demonstrating own-source revenue generation & a state guarantee from GoK

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5+ conversations held with prioritized funding institutions (II/II)

Potential funder	Status update
③ **Power Finance Corporation (PFC) Ltd** *POC: Shehla Sadaf, Chief General Manager & HoU - Projects - SR and RO South, PFC*	- While traditionally focused on the power sector, PFC is expanding into infrastructure segments including roads, metro systems, refineries, ports, and waste-to-energy. - It has funded projects in renewable energy (solar, wind, biofuels), including offshore wind and pumped hydro, and has MoUs signed for infrastructure diversification. - PFC has access to long-term capital and can structure financing through term loans, bond issuances, and other instruments aligned with infrastructure repayment timelines. - The rate offered for our project is 9.05% p.a. monthly rest, one year reset basis (card rate minus 115 bps) during O&M, and 9.15% during construction.
④ **World Bank (WB)** *POC: Arnab Bandyopadhyay, Lead Transport Specialist, WB*	- State has conveyed to MDBs (Secy., Fiscal Reforms) that it lacks fiscal space to take on additional MDB debt for the next 2-3 years - Off-budget borrowing structures are being explored by some states as an alternative; this could be evaluated for BBMP - MDBs have expressed limited interest in financing automobile-oriented core infrastructure (e.g., flyovers and tunnels), citing misalignment with their sustainable urban mobility priorities - Instead, there is a clear preference for investments that support transit-oriented development, multimodal integration, and public transport infrastructure - While BBMP has attempted to position tunnels as enablers for multimodal use (e.g., for buses and interchanges), this narrative has not strongly resonated with MDB stakeholders
⑤ **Rural Electrification Corporation (REC) Limited** *POC: Jeetendra Kumar, DGM, REC*	- REC is a Maharatna PSU under the Ministry of Power, with a diversified loan portfolio encompassing both power and non-power infrastructure sectors. - In recent years, REC has expanded its financing to include infrastructure projects such as metros, airports, ports, roads, and urban development. - Notable commitments include: an MoU with MMRDA to fund INR 1 lakh crore worth of infrastructure projects over five years, focusing on urban mobility, housing, and essential services. - REC offers competitive interest rates to promote sector growth. - For BBMP to leverage REC's financing, aligning project objectives with REC's focus areas & preparing detailed DPRs will be crucial

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Green Financing | Analyzed the long list of green bonds issued in India in the last 10 years; ~$40 Bn raised via green bonds in India since 2014 (I/II)

Issuer Type	Issuer	Amount (INR Crore)	Issue Date	Maturity Date	Coupon Rate	Currency
Govt/Treasury/Central Bank	India, Republic of (Government)	10000	1/23/2024	1/23/2054	7.37	Indian Rupee
Govt/Treasury/Central Bank	India, Republic of (Government)	8000	1/27/2023	1/27/2033	7.29	Indian Rupee
Govt/Treasury/Central Bank	India, Republic of (Government)	5000	11/13/2023	11/13/2028	7.25	Indian Rupee
Govt/Treasury/Central Bank	India, Republic of (Government)	5000	12/11/2023	12/11/2033	7.24	Indian Rupee
Govt/Treasury/Central Bank	India, Republic of (Government)	8000	1/27/2023	1/27/2028	7.1	Indian Rupee

Issuer Type	Issuer	Amount (INR Crore)	Issue Date	Maturity Date	Coupon Rate	Currency
Muni Corp/Public Agencies	Ahmedabad, Municipal Corporation of	200	2/6/2024	2/6/2029	7.9	Indian Rupee
Muni Corp/Public Agencies	Vadodara Municipal Corp	100	3/4/2024	3/4/2029	7.9	Indian Rupee
Muni Corp/Public Agencies	Kerala Infrastructure Investment Fund Board	143	7/3/2023	7/3/2028	8.49	Indian Rupee
Muni Corp/Public Agencies	Nagar Nigam Ghaziabad	21	4/6/2021	4/6/2025	8.1	Indian Rupee
Muni Corp/Public Agencies	Export Import Bank of India	4176	4/1/2015	4/1/2020	2.75	US Dollar
Muni Corp/Public Agencies	IREDA	275	1/3/2019	1/3/2029	8.51	Indian Rupee
Muni Corp/Public Agencies	IREDA	500	3/29/2017	3/29/2027	8.05	Indian Rupee
Muni Corp/Public Agencies	IREDA	810	3/6/2017	3/6/2027	7.85	Indian Rupee
Muni Corp/Public Agencies	IREDA	220	2/23/2017	2/23/2027	7.6	Indian Rupee
Muni Corp/Public Agencies	IREDA	610	2/6/2017	2/6/2027	7.22	Indian Rupee
Muni Corp/Public Agencies	IREDA	1950	10/10/2017	10/10/2022	7.125	Indian Rupee
Muni Corp/Public Agencies	NTPC ltd	2000	8/10/2016	8/10/2021	7.375	Indian Rupee
Muni Corp/Public Agencies	PFC	3341	12/6/2017	12/6/2027	3.75	US Dollar
Muni Corp/Public Agencies	PFC	2712	9/21/2021	9/21/2028	1.841	Euro
Muni Corp/Public Agencies	REC Limited	140	1/19/2024	1/19/2034	ZCB	Japanese Yen
Muni Corp/Public Agencies	REC Limited	6264	4/11/2023	4/11/2028	5.625	US Dollar
Muni Corp/Public Agencies	REC Limited	3758	7/7/2017	7/7/2027	3.875	US Dollar
Muni Corp/Public Agencies	REC Limited	1610	1/19/2024	1/19/2029	1.76	Japanese Yen
Muni Corp/Public Agencies	REC Limited	1423	1/19/2024	4/19/2029	1.41	Japanese Yen

Source: Refinitiv

1 Sovereign Green Bonds

2 Municipal Corp and Other Public Agencies Green Bonds

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Green Financing | Analyzed the long list of green bonds issued in India in the last 10 years; ~$40 Bn raised via green bonds in India since 2014 (II/II)

Issuer Type	Issuer	Amount (INR Crore)	Issue Date	Maturity Date	Coupon Rate	Currency
Corporate	Adani Renewable Energy (RJ) Ltd	3028	10/15/2019	10/15/2039	4.625	US Dollar
Corporate	Adani Green Energy Ltd	6264	9/8/2021	9/8/2024	4.375	US Dollar
Corporate	Adani Green Energy (Up) Ltd	3416	3/12/2024	3/12/2042	6.7	US Dollar
Corporate	Adani Green Energy (Up) Ltd	4176	6/10/2019	12/10/2024	6.25	US Dollar
Corporate	Apraava Renewable Energy Pvt Ltd	200	9/15/2015	4/30/2018	9.15	Indian Rupee
Corporate	Apraava Renewable Energy Pvt Ltd	197	10/13/2020	10/13/2022	6.9	Indian Rupee
Corporate	Avaada Solarise Energy Pvt Ltd	499	3/2/2022	2/28/2025	6.75	Indian Rupee
Corporate	Avaada Sataramh Pvt Ltd	270	3/2/2022	2/28/2025	6.75	Indian Rupee
Corporate	Axis Bank Ltd	334	4/18/2019	4/18/2024	3.817	US Dollar
Corporate	Bank of Baroda Ltd	1000	12/2/2016	Perpetual	8.5	Indian Rupee
Corporate	Hero Wind Energy Pvt Ltd	125	12/21/2016	6/6/2022	ZCB	Indian Rupee
Corporate	Hero Wind Energy Pvt Ltd	50	6/11/2019	6/10/2022	11.84	Indian Rupee
Corporate	Clean Sustainable Energy Pvt Ltd	334	3/2/2022	2/28/2025	6.75	Indian Rupee
Corporate	Continuum Green Energy (India) Pvt Ltd	5429	6/26/2024	6/26/2033	7.5	US Dollar
Corporate	Citra Real Estate Ltd	19	6/28/2021	6/28/2024	6.49	Indian Rupee
Corporate	Fermi Solarfarms Pvt Ltd	337	3/2/2022	2/28/2025	6.75	Indian Rupee
Corporate	Hero Solar Energy Pvt Ltd	100	6/11/2019	6/10/2022	11.84	Indian Rupee
Corporate	Malwa Solar Power Generation Pvt Ltd	197	7/1/2021	7/1/2024	6.49	Indian Rupee
Corporate	Indian Railway Finance Corp Ltd	4176	12/13/2017	12/13/2027	3.835	US Dollar
Corporate	Indian Railway Finance Corp Ltd	4176	1/21/2022	1/21/2032	3.57	US Dollar
Corporate	JSW Hydro Energy Ltd	5905	5/18/2021	5/18/2031	4.125	US Dollar
Corporate	L&T Finance Ltd	667	6/29/2017	11/18/2024	7.59	Indian Rupee
Corporate	Mindspace Business Parks Reit	550	3/15/2023	4/13/2026	8.02	Indian Rupee
Corporate	PNB Housing Finance Ltd	500	3/31/2016	3/31/2021	8.01	Indian Rupee
Corporate	Priapus Infrastructure Ltd	16	6/28/2021	6/28/2024	6.49	Indian Rupee
Corporate	Renew Pvt Ltd	500	8/1/2016	7/30/2021	10.4	Indian Rupee
Corporate	Renew Clean Energy Pvt Ltd	4385	3/12/2019	3/12/2024	6.67	US Dollar
Corporate	Renew Pvt Ltd	2506	9/12/2019	9/27/2022	6.45	US Dollar
Corporate	Renew Pvt Ltd	3758	1/29/2020	3/5/2027	5.875	US Dollar
Corporate	Renew Pvt Ltd	4886	4/14/2021	7/14/2028	4.5	US Dollar
Corporate	Sepset Constructions Ltd	197	6/28/2021	6/28/2024	6.49	Indian Rupee
Corporate	Torrent Solargen Ltd	550	5/30/2022	12/31/2039	8.2	Indian Rupee
Corporate	Yarrow Infrastructure Pvt Ltd	581	7/1/2021	7/1/2024	6.49	Indian Rupee
Corporate	Yes Bank ltd	315	8/5/2015	8/5/2025	8.95	Indian Rupee
Corporate	Yes Bank Ltd	330	12/29/2016	12/29/2023	7.62	Indian Rupee

3

Private Corporation Green Bonds

Issuer Type	Issuer	Amount (INR Crore)	Issue Date	Maturity Date	Coupon Rate	Currency
Corporate	Ultratech Cement Ltd	3341	2/16/2021	2/16/2031	2.8	US Dollar
Corporate	Adani Electricity Mumbai Ltd	2506	7/22/2021	7/22/2031	3.867	US Dollar
Corporate	JSW Steel Ltd	4176	9/23/2021	4/5/2032	5.05	US Dollar
Corporate	JSW Infrastructure Ltd	3341	1/21/2022	1/21/2029	4.95	US Dollar

4

Sustainability Linked Bonds

Source: Refinitiv

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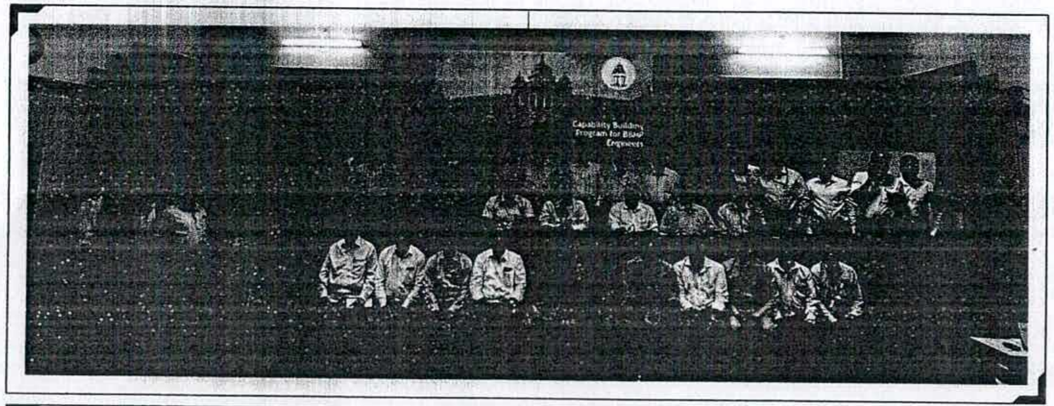
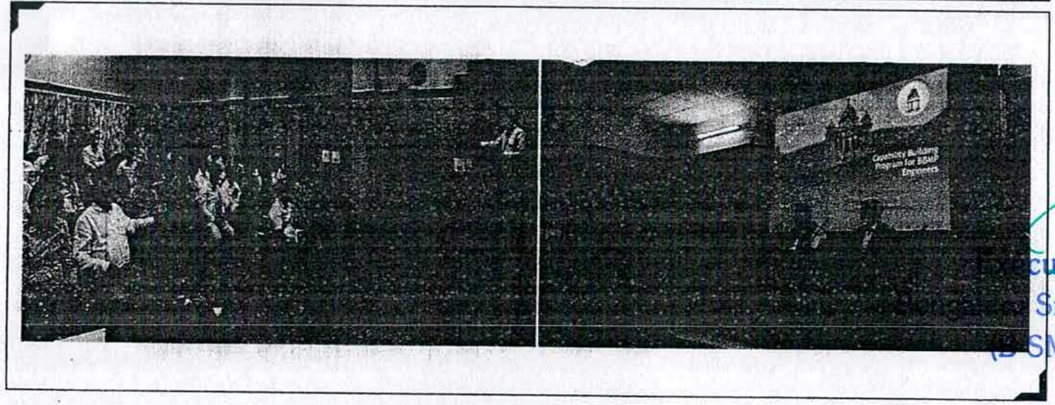
BRUHAT BENGALURU MAHANAGARA PALIKE

Capability Building Session for BBMP Engineers conducted on 3rd July | 80+ engineers, 4.4/5 avg. Rating with 93% positive response


Capability Building Program for BBMP Engineers


Capability Building Program for BBMP Engineers

- 80+ Engineers (EEs, SEs and CEs attended the session)
- Sessions were well received - 93% participants rated them "Good" or "Very Good" (overall score: 4.4 / 5)

What went well

- Relevant content (stress management, communication, ChatGPT/Excel), Balanced format (technical + soft skills), Interactive delivery (examples, participation)

Areas of improvement

- Format (spread over multiple days), coverage (include Assistant Engineers, AEEs)

Suggested topics for future

- Legal/process (RTIs, audits, tenders, contracts), skills (public interaction, interpersonal, behavioural), technical exposure (QC, construction methods, site visits to other states/countries)

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Agenda for training workshop for BBMP CEs, SEs and EEs, 3rd July

Time Slots	Agenda	Speaker
10:00 AM - 10:15 AM	Program Kickoff - Opening Address by Chief Commissioner	***Maheshwar Rao**, Chief Commissioner, BBMP*
10:15 AM - 11:00 AM	Urban Innovation: Bangalore Vision and learnings from other Urban Local bodies	***BCG***
11:00 AM - 12:00 PM	Stress Management and Well being: health and wellness practices at workplace	***Rasshmi Baagwe**, Counselling Psychologist*
12:00 PM - 12:30 PM	Coffee Break	
12:30 PM - 1:30 PM	Financial modelling and data analysis using digital tools: ChatGPT & Excel	***BCG***
1:30 PM - 2:30 PM	Lunch Break	
2:30 PM - 4:00 PM	Effective Communication: Sharpening your message, enhancing presence and managing stakeholders	***Vivek Slaria**, Executive Coach*
4:00 PM - 4:15 PM	Coffee Break	
4:15 PM - 5:00 PM	Project Monitoring and Planning: Driving Timely and Effective Delivery	***BCG***
5:00 PM - 5:15 PM	Closing Address and feedback	***Lokesh M**, Chief Engineer, Road Infrastructure*

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Non-exhaustive

Target organizations for identifying potential candidates

Engineering and finance team	• **Private EPC firms:** L&T, Kalpataru, KEC International, Megha Engineering and Infrastructure Limited, Tata Projects, Afcons Infrastructure • **PSUs:** NBCC (National Buildings Construction Corporation), DMRCL (Delhi Metro Rail Corporation Limited), RVNL (Rail Vikas Nigam Limited), IRCON International • **Deputation** from **Govt. of India** (NHAI, CPWD, etc.)/ **Govt. of Karnataka** (KIADB, PWD, KIADB, BDA, KRDCL, BMRCL, etc.)/ **BBMP**
HR, PR and IT teams	• Private firms from across sectors/ PSUs
Land acquisition team	• Deputation from Govt. of Karnataka/ BBMP

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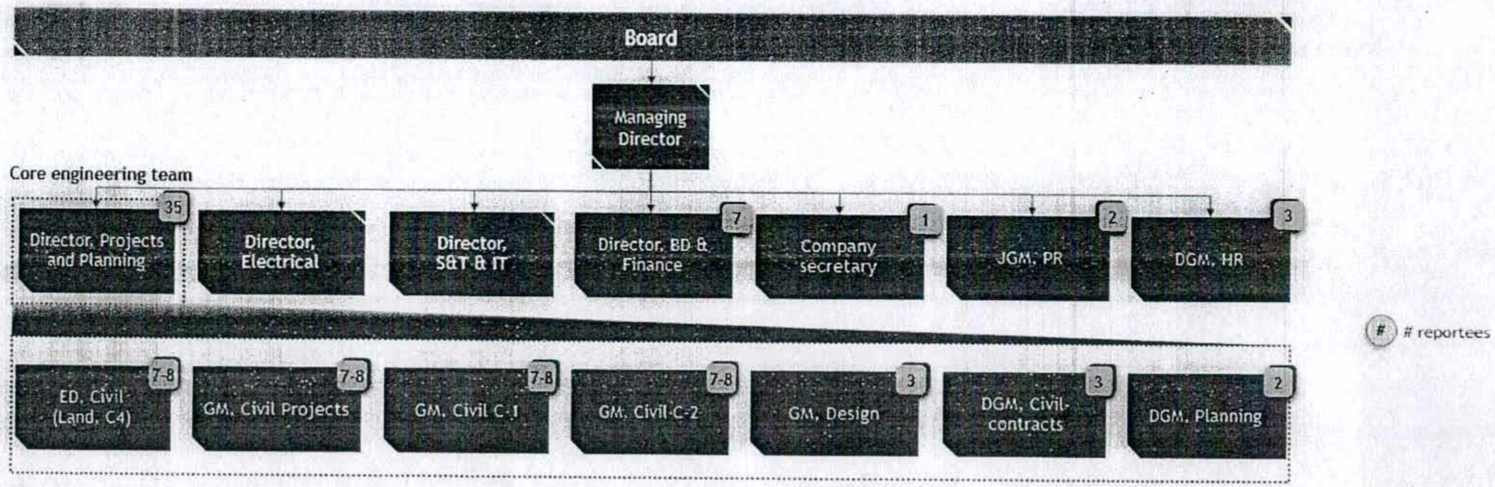
Case Study | K-RIDE has a single Director-Projects and Planning to lead infrastructure delivery, managing an active portfolio of ~INR 23,000 Cr


Board
Managing Director
Core engineering team
35
Director, Projects and Planning
Director, Electrical
Director, S&T & IT
7
Director, BD & Finance
1
Company secretary
2
JGM, PR
3
DGM, HR
# reportees
7-8
ED, Civil (Land, C4)
7-8
GM, Civil Projects
7-8
GM, Civil C-1
7-8
GM, Civil-C-2
3
GM, Design
3
DGM, Civil-contracts
2
DGM, Planning

- **Core Engineering Leadership**

  A single **Director - Projects and Planning** leads the infrastructure delivery function, managing an active portfolio of ~₹23,000 crore. This includes the ₹15,000 crore BSRP across four corridors and ₹800 crore of doubling works.

- **Project Management and Delivery**

  The project execution team is structured around **four project leads: GM, Civil Projects (Doubling Works), GM, Civil C1, C2 (Corridor 1 and 2), ED, Civil (Corridor 4 and land coordination)**

  Each General Manager or ED oversees a corridor or track section and manages a delivery team comprising 7-8 engineers and field-level officers.

- **Technical and Functional Support:** The engineering delivery is supported by centralized roles that ensure planning and design quality: **GM, Design** (detailed design coordination and compliance), **DGM, Civil Contracts** (contracting, bid processes, and compliance), **DGM, Planning** (corridor alignment, depot planning, and stakeholder coordination) supports multiple GMs, ensuring consistency across corridors.

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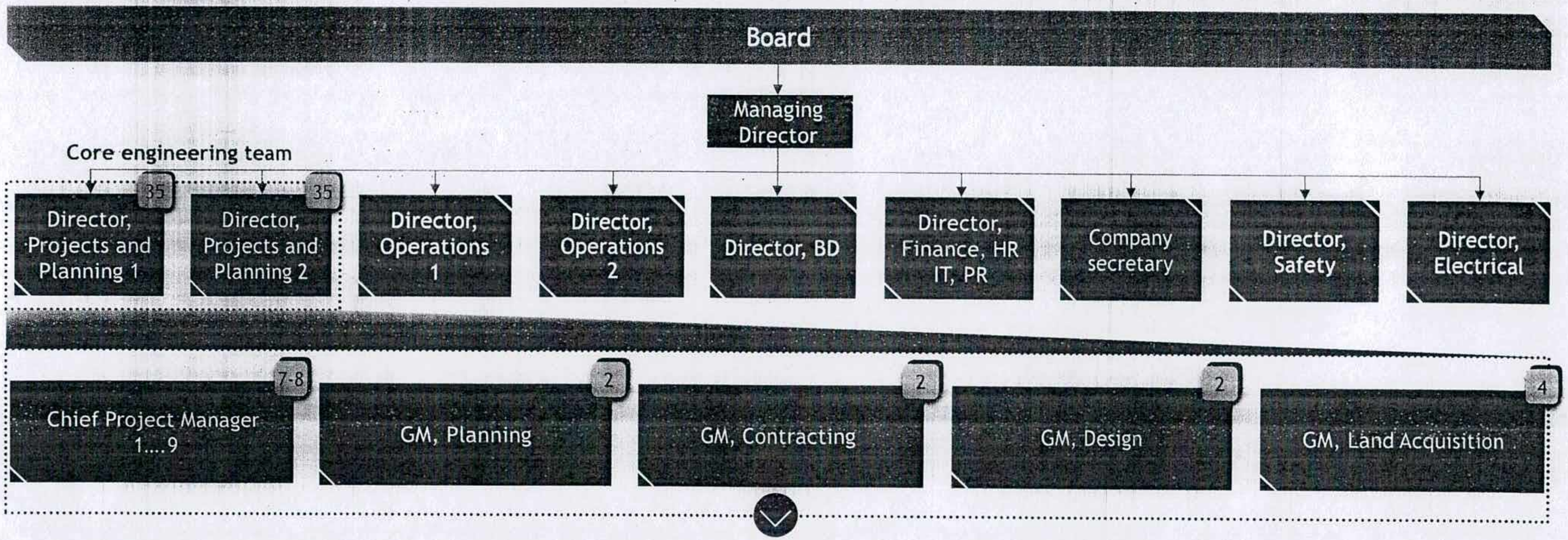
Case Study | DMRCL has 2 Directors for managing core engineering functions with each handling around projects worth INR 20,000-30,000 Cr


Board
Managing Director
Core engineering team
35
Director, Projects and Planning 1
35
Director, Projects and Planning 2
Director, Operations 1
Director, Operations 2
Director, BD
Director, Finance, HR IT, PR
Company secretary
Director, Safety
Director, Electrical
7-8
Chief Project Manager 1....9
2
GM, Planning
2
GM, Contracting
2
GM, Design
4
GM, Land Acquisition

- **2 Directors for managing infrastructure works**; each Director handling projects worth **INR 20,000 Cr - 30,000 Cr**
- Projects team handles : **project management**(team of civil engineers), **contracting** (legal), **planning, design** and **land acquisition**
- Each Chief Project Manager handles **a fixed stretch of the metro** with a **team of 5-8** managers and executives (INR 5000 Cr worth of projects)

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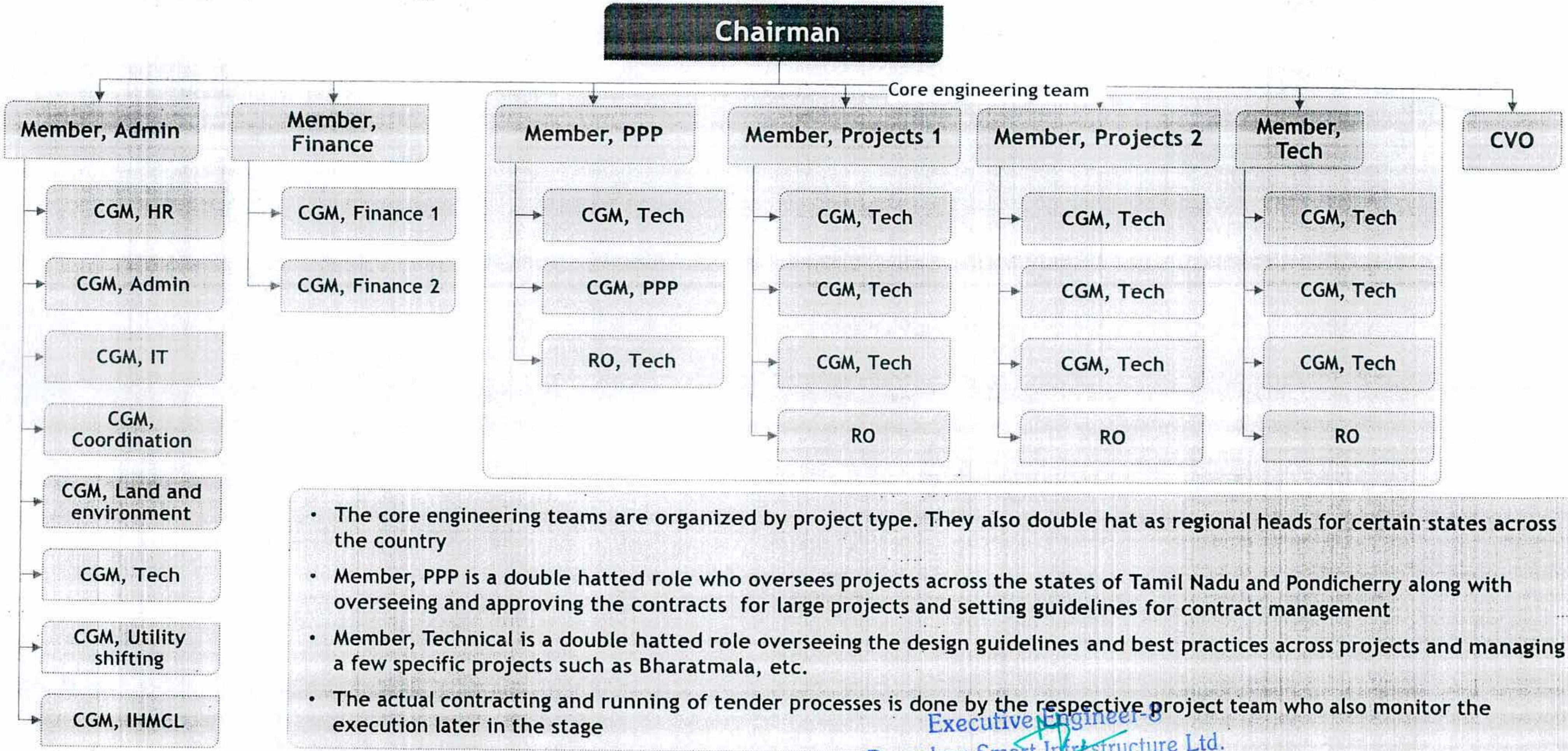
Backup

Case Study | NHAI organization structure



Chairman

- **Member, Admin**
  - CGM, HR
  - CGM, Admin
  - CGM, IT
  - CGM, Coordination
  - CGM, Land and environment
  - CGM, Tech
  - CGM, Utility shifting
  - CGM, IHMCL
- **Member, Finance**
  - CGM, Finance 1
  - CGM, Finance 2
- Core engineering team
  - **Member, PPP**
    - CGM, Tech
    - CGM, PPP
    - RO, Tech
  - **Member, Projects 1**
    - CGM, Tech
    - CGM, Tech
    - CGM, Tech
    - RO
  - **Member, Projects 2**
    - CGM, Tech
    - CGM, Tech
    - CGM, Tech
    - RO
  - **Member, Tech**
    - CGM, Tech
    - CGM, Tech
    - CGM, Tech
    - RO
- **CVO**

- The core engineering teams are organized by project type. They also double hat as regional heads for certain states across the country
- Member, PPP is a double hatted role who oversees projects across the states of Tamil Nadu and Pondicherry along with overseeing and approving the contracts for large projects and setting guidelines for contract management
- Member, Technical is a double hatted role overseeing the design guidelines and best practices across projects and managing a few specific projects such as Bharatmala, etc.
- The actual contracting and running of tender processes is done by the respective project team who also monitor the execution later in the stage

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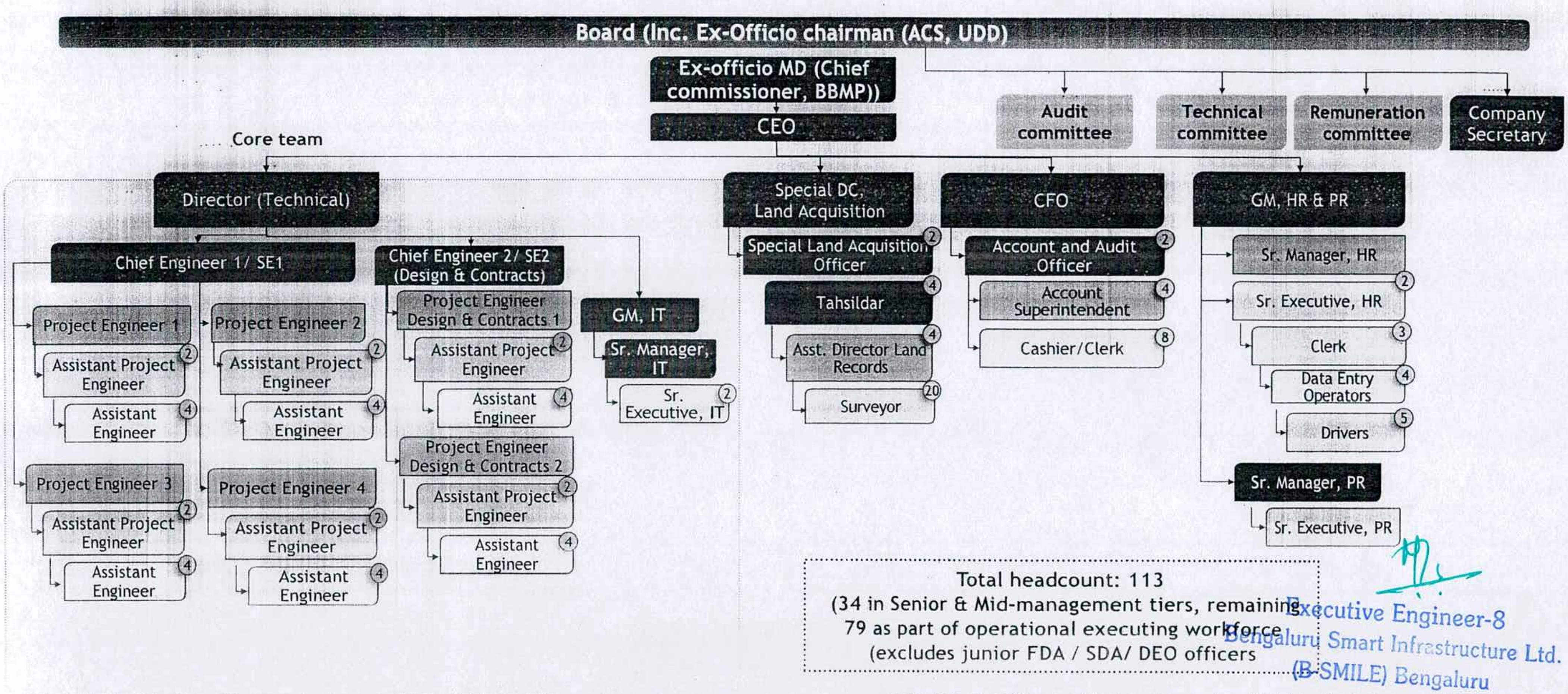
Organization structure | Proposed to have a horizontal, bottom-heavy team to ensure execution focus



Board (Inc. Ex-Officio chairman (ACS, UDD)

- Ex-officio MD (Chief commissioner, BBMP))
  - CEO
    - Director (Technical)
      - Chief Engineer 1/ SE1
        - Project Engineer 1
          - Assistant Project Engineer ②
            - Assistant Engineer ④
        - Project Engineer 2
          - Assistant Project Engineer ②
            - Assistant Engineer ④
        - Project Engineer 3
          - Assistant Project Engineer ②
            - Assistant Engineer ④
        - Project Engineer 4
          - Assistant Project Engineer ②
            - Assistant Engineer ④
      - Chief Engineer 2/ SE2 (Design & Contracts)
        - Project Engineer Design & Contracts 1
          - Assistant Project Engineer ②
            - Assistant Engineer ④
        - Project Engineer Design & Contracts 2
          - Assistant Project Engineer ②
            - Assistant Engineer ④
      - GM, IT
        - Sr. Manager, IT
          - Sr. Executive, IT ②
    - Special DC, Land Acquisition
      - Special Land Acquisition Officer ②
        - Tahsildar ④
          - Asst. Director Land Records ④
            - Surveyor ⑳
    - CFO
      - Account and Audit Officer ②
        - Account Superintendent ④
          - Cashier/Clerk ⑧
    - GM, HR & PR
      - Sr. Manager, HR
        - Sr. Executive, HR ②
          - Clerk ③
            - Data Entry Operators ④
              - Drivers ⑤
      - Sr. Manager, PR
        - Sr. Executive, PR
- Audit committee
- Technical committee
- Remuneration committee
- Company Secretary

Total headcount: 113
(34 in Senior & Mid-management tiers, remaining 79 as part of operational executing workforce
(excludes junior FDA / SDA/ DEO officers

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Note: One more Director (Technical) may be added later basis the portfolio size, Project Engineer to be Executive Engineer grade officer, Assistant Project Engineer to be Assistant Executive Engineer grade officer

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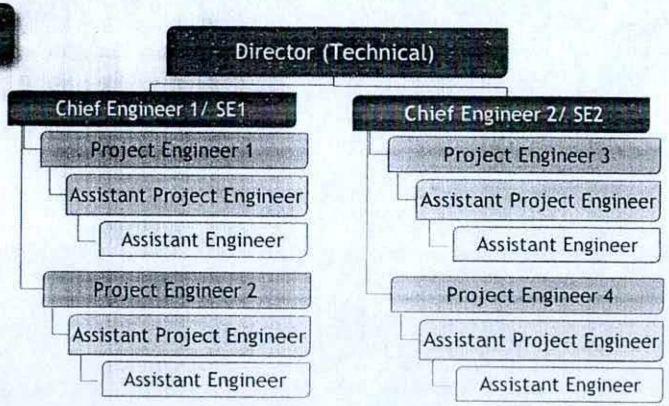
Two alternatives exist for the distribution of workstreams across the project lifecycle

Option A



- Director (Technical)
  - Chief Engineer 1/ SE1
    - Project Engineer 1
      - Assistant Project Engineer
        - Assistant Engineer
    - Project Engineer 2
      - Assistant Project Engineer
        - Assistant Engineer
  - Chief Engineer 2/ SE2
    - Project Engineer 3
      - Assistant Project Engineer
        - Assistant Engineer
    - Project Engineer 4
      - Assistant Project Engineer
        - Assistant Engineer

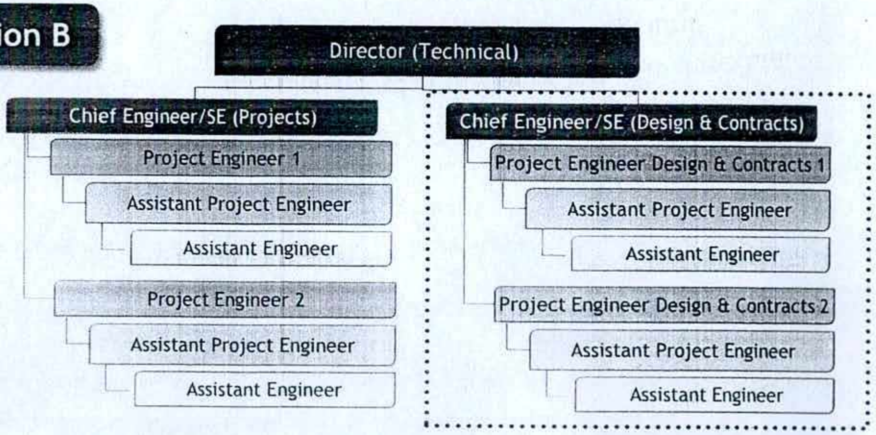
End to End project lifecycle managed by single person: Well-suited for leaner organizations that are primarily for contract-management

Prerequisites for success:

1. **Availability of standardized contracts & formats:** To enable uniform processes, design standards, & contracting frameworks to ensure consistency
2. **Skilled Multifunctional Teams:** Availability of managers and technical personnel capable of managing full lifecycle responsibilities, from design to execution
3. **Integrated Project Management Processes:** Processes & governance frameworks designed to effectively manage diverse phases of the project lifecycle cohesively

Adopted by: NHAI, DMRCL, KRIDE, State PWD wings

Option B



- Director (Technical)
  - Chief Engineer/SE (Projects)
    - Project Engineer 1
      - Assistant Project Engineer
        - Assistant Engineer
    - Project Engineer 2
      - Assistant Project Engineer
        - Assistant Engineer
  - Chief Engineer/SE (Design & Contracts)
    - Project Engineer Design & Contracts 1
      - Assistant Project Engineer
        - Assistant Engineer
    - Project Engineer Design & Contracts 2
      - Assistant Project Engineer
        - Assistant Engineer

Dedicated Team for Design & Contracting: Well-suited for execution-first organizations that prefer in-house design, contracting, execution

Prerequisites for success:

1. **Strong in-house design & contracting experience:** deep understanding of design and contract nuances to be able to independently manage the same
2. **Individual KPIs aligned to overall Project Success:** Ensuring alignment within teams and shared delivery goals to ensure overall project success
3. **Clear Interface and Coordination Mechanisms:** Defined processes and clear handover points between centralized design/contracting and decentralized execution teams to reduce delays

Adopted by: Private EPC firms like L&T, Kalpataru, Ramky, etc

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Key functions to be carried out by B-SMILE across both pre-execution and during the execution phase of identified projects

Projects	Project cost (INR Cr)
North-South Tunnel	18,000
East-West tunnel	22,000
Elevated corridor	13,000
White topping of roads	6,000
Double decker flyover	9,000
Sanchara Yuktha	3,000
Sky deck	350
ORR redevelopment	400
Total budget	71,750

Core functions

Pre-execution of project

DPR and tender document preparation

- Project development model and packaging finalization
- Prepare tender documents, BOQs, DPRs, and manage bid process
- Ensure transparent, timely contracting in line with requisite norms

Land acquisition and utility shifting

- Identify land parcels, mark ROW, and prepare sketches
- Coordinate with BBMP, BDA, Revenue, Forest, and KIADB for records, and with BESCOM, BWSSB, and utilities for relocations

Execution planning

- Finalize implementation design and execution plans
- Set up pre-construction requirements, and mobilize project team

During execution of project

- Track physical and financial progress via site reviews
- Address contractor queries and manage field-level changes
- Monitor QA/QC, compliance, and environmental mitigation
- Resolve land, utility, and other site disruptions
- Report project status to leadership and flag escalation risks

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Support functions

- Finance
- HR
- IT
- PR

Our understanding of B-SMILE's context including the latest Government Order

1 Scope

To **develop, promote, establish, construct, operate, upgrade, and maintain** infrastructure projects **allocated by State Govt., BBMP or any other Corporate Bodies** within **BBMP** jurisdiction or as part of Greater Bengaluru

- Twin tunnels (North-South and East-West)
- Elevated corridor
- Concretization and white topping of roads
- Outer Ring Road improvement
- Sky deck
- Buffer zone road development

2 Composition of SPV

Government of Karnataka to retain 90% ownership of the SPV and 10% to be owned by BBMP

3 Key managerial team

- Management team to consist of **CEO, COO, Manager, CFO and Company Secretary**
- Member to **not be a Government or public servant and to** have **15+ years of experience in running an infrastructure company**
- Shall be **hired for a fixed tenure (on contract)**

4 Governance framework

Constitution of Board of Directors

ACS, UDD	Ex. Officio Chairman
Chief Commissioner, BBBMP	Ex. Officio Managing Director
Mayor	Director
Commissioner, BDA	Director
Chairman, BWSSB	Director
Engineer-in-Chief, BBMP	Technical Director
One woman	Director
Expert Independent member	Director
Expert Independent member	Director

Board committees to be constituted

- **Audit Committee:** Oversees the company's financial reporting processes and internal controls
- **Technical Committee:** Develops infrastructure policy and quality standards, oversees contractor evaluation, and manages long-term project planning - **can operate as the Project Management Committee**
- **Nomination and remuneration Committee:** Manages nomination and remuneration of key personnel, and also designs HR policies, recruitment processes, and performance metrics

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Recap | Key actions proposed for BBMP across existing and new contracts

Type of roads	Key next steps
Existing roads under recent or ongoing re-asphalting contracts (390 km stretch of arterial and sub-arterial roads)	• Enforce **monitoring mechanism for issue rectification-** – **Upgrade the Raste Gundi Gamana application** to include contractor access – **Mandate geo-tagged photo logs** for issue rectification
Roads identified for fresh resurfacing	• Create new RFPs based on **updated payment mechanism (80:20), quality monitoring (basis KPIs) and issue rectification mechanism**
Roads under regular maintenance post-DLP	• **Migrate to 5-year PBMC model** with performance-based payments • Define comprehensive contracts with fixed **monthly lump sum payments, SLAs for defects, and app-based defect logging & tracking**

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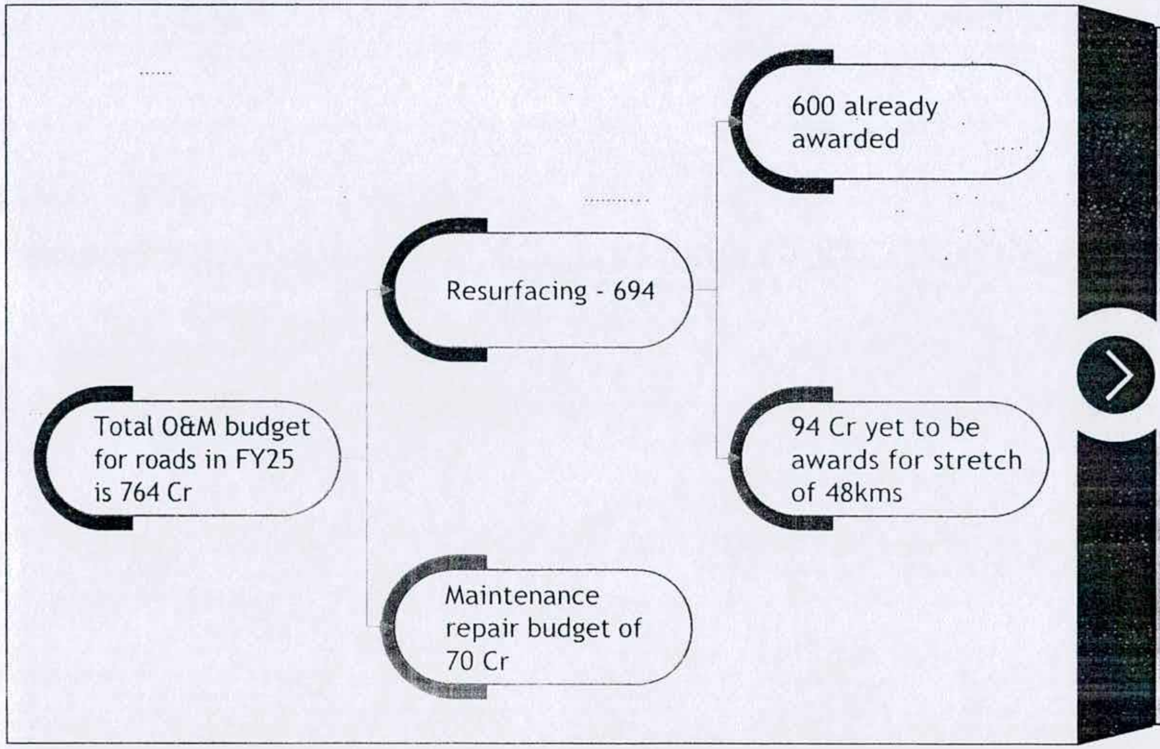
Potential to save INR 15-25 Cr in FY26 and annual savings potential of 150-200 Cr from next year



Total O&M budget for roads in FY25 is 764 Cr

Resurfacing - 694

600 already awarded

94 Cr yet to be awards for stretch of 48kms

Maintenance repair budget of 70 Cr

Contracts already awarded, no potential for any savings from the same in the current year; to focus on ensuring effective enforcement during DLP

Potential savings of ~2 Cr by moving to 80-20 payment structure and ensuring compliance to KPIs during 24-month DLP period

Migrating to PBMC model with fixed per km per month payout can result in savings of upto 25-30%, i.e. 15-20 Cr

Additionally, from next year, potential to unlock annual savings of 150-200 Cr

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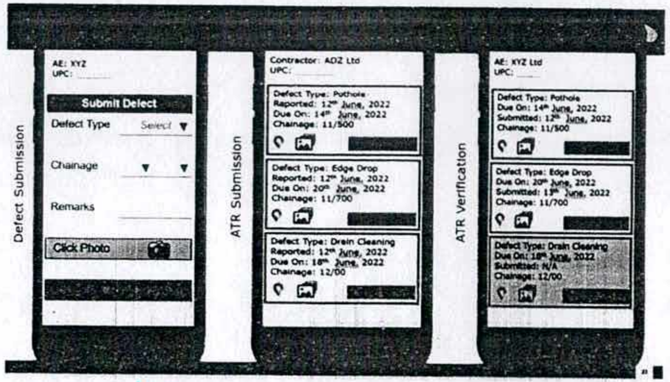
Case study | NHAI TATPAR application for maintenance monitoring allows for transparency and tracking of KPIs with immediate notifications sent to contractors

Introduction to maintenance app (TATPAR)

- NHAI Launched the Maintenance Module in the existing AMS App.
- Monthly and daily inspections already part of O&M activities
- App allows for transparency and tracking KPIs
- AE/IE, PD, RO can submit geo-tagged information of defect with additional details.
- **Instantly sent to Contractor who then submits rectified photo from same location which AE/IE can verify.**
- Maintenance Module in NHAI One App is currently functional on following type of projects:
    - Mode-Item Rate & EPC
    - Stage-PCC/CC Issued and Under O&M Projects
    - Type-Regular Civil Works and O&M Projects

Contractor registration | **Joint inspections & quick defects** | **Rectification & verification of defects** | **Defects closure**

Interactive mobile application



AE: XYZ
UPC: ______
Defect Type
Chainage
Remarks

Contractor: ADZ Ltd
UPC: ______

Defect Type: Pothole
Reported: 12th June, 2022
Due On: 14th June, 2022
Chainage: 11/500

Defect Type: Edge Drop
Reported: 12th June, 2022
Due On: 20th June, 2022
Chainage: 11/700

Defect Type: Drain Cleaning
Reported: 12th June, 2022
Due On: 18th June, 2022
Chainage: 12/00

AE: XYZ Ltd
UPC: ______

Defect Type: Pothole
Due On: 14th June, 2022
Submitted: 12th June, 2022
Chainage: 11/500

Defect Type: Edge Drop
Due On: 20th June, 2022
Submitted: 13th June, 2022
Chainage: 11/700

Defect Type: Drain Cleaning
Due On: 18th June, 2022
Submitted: N/A
Chainage: 12/00

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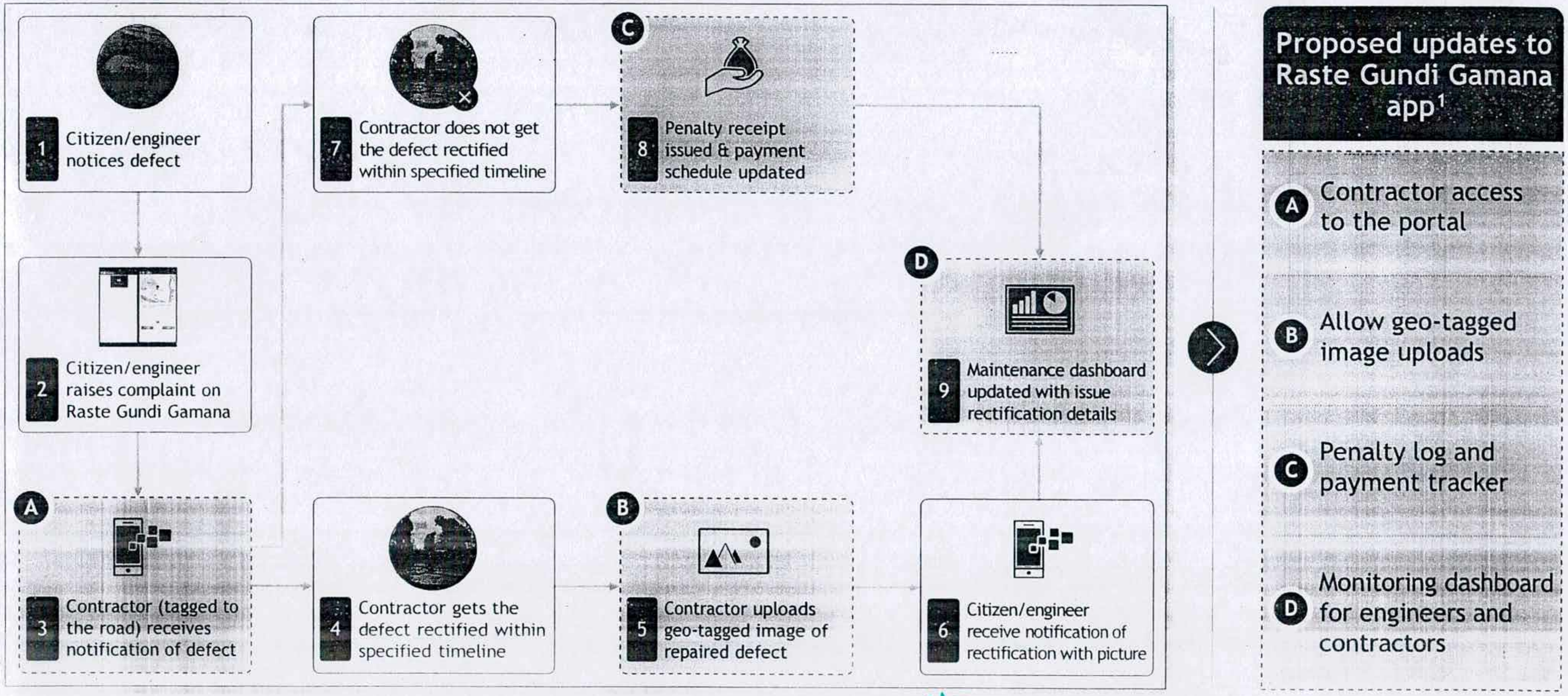
Updates to Raste Gundi Gamana application can improve management of issue rectification timelines and quality monitoring in road maintenance



1 Citizen/engineer notices defect

2 Citizen/engineer raises complaint on Raste Gundi Gamana

A 3 Contractor (tagged to the road) receives notification of defect

4 Contractor gets the defect rectified within specified timeline

B 5 Contractor uploads geo-tagged image of repaired defect

6 Citizen/engineer receive notification of rectification with picture

7 Contractor does not get the defect rectified within specified timeline

C 8 Penalty receipt issued & payment schedule updated

D 9 Maintenance dashboard updated with issue rectification details

Proposed updates to Raste Gundi Gamana app[1]

- A Contractor access to the portal
- B Allow geo-tagged image uploads
- C Penalty log and payment tracker
- D Monitoring dashboard for engineers and contractors

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[1] Case study on NHAI's maintenance application (TATPAR) available in next slide for reference

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Frequency of inspection of KPIs to be based on type of road

KPI	Applicable roads	Service Level	Frequency of Inspection	Tools/ Equipment	Rectification timeline
Potholes, pumping & ponding	Arterial, sub-arterial Local/ collector	No tolerance allowed	Bi-monthly Weekly	Scale, Tape, visual etc.	24-48 Hours
Rutting	Arterial, sub-arterial	<5mm (for any 12.5 m length/km)	Bi-monthly	Scale, Tape, visual etc.	15-30 Days
Cracking	Arterial, sub-arterial, local/ collector	<0.5 sqm for any 50m length	Bi-monthly	Scale, Tape, visual etc.	3-14 Days
Ravelling, Stripping	Arterial, sub-arterial	<1% of area	Bi-monthly	Tape, visual etc.	3-15 Days
Bleeding, Edge Breaking	Arterial, sub-arterial, local/ collector	Nil	Bi-monthly	Scale, Tape, visual etc.	7-15 Days
Programme level- Skid[1]	Arterial, sub-arterial	50SN	Annually	SCRIM (Sideway force Coefficient Routine Investigation Machine or equivalent)	180 Days
Embankment slopes & protection	Arterial, sub-arterial, local/ collector	Nil	Monthly	Odometer	7-15 Days
Edge drop and unevenness of shoulders	Arterial, sub-arterial, local/ collector	Nil	Monthly	Scale, Tape, visual etc.	7-15 Days
Vegetation Growth on shoulders and median	Arterial, sub-arterial Local/ collector	Nil	Bi-monthly Weekly	Visual inspection	2-7 Days
Kerb Quality	Arterial, sub-arterial, local/ collector	No damaged or missing kerb stones & painting as intended	Bi-Annually	Distance measuring tape, visual	Within 7 days

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[1] SCRIM is a high-end tool not always available locally; BBMP can phase it in gradually or used only [illegible]

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Pre-defined SLAs to be imposed for quality monitoring and enforcing performance-based payment in regular maintenance contracts

Key performance indicators[1]	• Tests for rutting, embankment slope, etc. • Absence of visual defects like potholes, cracking, ponding, etc.
Monitoring frequency & threshold	• Defined individually for each KPI
Implementation	• **Identified by BBMP zonal/ ward engineers and contractors** • Visual defects **reported by citizens upon noticing** • Machines like **laser profilometer, rulers,** etc. sourced by contractor
Monitoring mechanism	• Monthly progress report, work completion reports, compliance reports submitted to engineer-in-charge • **Update on BBMP's Raste Gundi Gamana app with geo-tagged images**
Performance- linked payment	• **Deductions made from monthly payment** (as per penalty for each KPI)

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1. Detailed list of KPIs applicable for the routine maintenance of roads managed by B[illegible] slides (inspired by NHAI)

Critical to switch to 5-yr performance-based contracts where responsibility of ensuring adequate maintenance as per pre-defined KPIs is on the contractor

Contract structure for 5-year PBMC for regular maintenance	
Applicable roads	Roads recently resurfaced (for long-term maintenance)
Contract tenure	5 years
Bid parameter	Minimum quoted lump sum amount per km
Reserve Bid	Fixed lump sum amount per km determined by BBMP engineers[2]
Payment mechanism	Monthly lump sum payment as per length of road covered (INR per km per month)
Quality monitoring mechanism	• Define KPIs like roughness index, rut depth, etc. tested on periodic basis • Assign fixed rectification timeline for identified issues • Leverage BBMP's Raste Gundi Gamana portal for timeline and quality monitoring

Performance- linked payment mechanism

Benchmark

National Highways Authority of India (NHAI)

- Fixed monthly lump sum amount per km
- Min. rate per km determined by NHAI
- Payment adjusted for deductions subject to SLA compliance

Proposed for BBMP

- Fixed lump-sum payment per km per month (INR per km per month)
- Payment deductions based on non-compliance with strict pre-defined SLAs[1]

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[1] Details of the SLAs available on further slides

Pre-defined SLAs such as Roughness Index to support quality adherence at the end of work completion; penalties for non-compliance of SLAs during DLP

Key performance indicator[1]	• **Roughness Index**	• **Visual defects like potholes, cracks**
Frequency	• Once after completion of work • Once every year during Defect liability period	• Upon noticing (during DLP)
Threshold	• **<2000 mm/km** for blacktopped roads	• Rectification within 48 hours
Implementation	• Conducted by contractor with BBMP engineer oversight • Machines for test (**Bump Integrator, laser profilometer)** sourced by contractor	• Reported upon noticing by zonal/ ward engineer or citizens
Monitoring mechanism	• RI test compliance report submitted to engineer-in-charge	• **Update on Raste Gundi Gamana app[2]** • Geo-tagged image uploaded by contractor
Performance- linked payment	• **10% payment held back in case of test failure** (each year of DLP)	• **Penalty of INR 10,000 per pothole per day** deducted from 20% payment withheld

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1. This model is inspired by the maintenance contracts implemented by Brihanmumbai Municipal Corporation (BMC)
2. Detailed flow diagram of the use of Raste Gundi Gamana application is available in further slides

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Critical to withhold 20% payment for resurfacing / relaying contracts upon work completion and payout the same during the DLP period

Contract structure for resurfacing/ relaying of roads

Applicable roads	• Roads requiring resurfacing/ relaying
Contract tenure	• 6-8 months for works + 24 months of DLP[1]
Bid parameter	• Priced bill of quantities
Reserve Bid	• Bill of quantities priced at SOR
Payment mechanism	• 80%- Upon work completion • 20%- during DLP (based on SLA compliance)
Quality monitoring mechanism	• Define KPIs like roughness index, rut depth, etc. tested on periodic basis • Assign fixed rectification timeline for identified issues • Leverage BBMP's Raste Gundi Gamana portal for timeline and quality monitoring

Performance- linked payment mechanism

Benchmark

Brihanmumbai Municipal Corporation

- 80% - Upon physical work completion
- 20% - Over DLP basis SLA compliance (10% after each year of DLP)

Proposed for BBMP

80% payment	• Upon physical work completion
20% payment	• Released over DLP as per SLA compliance • 10% - year 1 of DLP • 10% - year 2 of DLP • No payment in case of non-compliance

---

[1] Details of the SLAs available on further slides

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3 key recommendations for BBMP across contracts for both resurfacing / relaying and maintenance

① Revise payment terms & SLAs for contracts for resurfacing / relaying of roads

1a **Introduce new 80:20 payment structure-** 80% to be paid on work completion, 20% withheld and paid as per SLA compliance during DLP

1b Define strict SLAs by introducing **KPIs** (roughness index and absence of potholes) and **fixing timelines and penalties for issue rectification**

② Adopt 5-year performance-based maintenance contracts for regular maintenance of roads

2a **Replace existing annual/ need-based contracts** for regular maintenance with **5-year PBMC with fixed monthly lump sum payment per km made as per compliance with pre-defined SLAs**

2b Define strict SLAs by introducing **KPIs like** absence of potholes, rutting, embankment slope test, etc. and **fixing timelines and penalties for issue rectification**

③ Leverage technology for SLA monitoring

- Incorporate use of **Raste Gundi Gamana app (updated to include contractor access) and geo-tagged images** to track timelines and quality of issue rectification **across all road maintenance contracts**

- Potential to save INR 15-25 Cr in FY26 and **annual savings potential of 150-200 Cr from next year**
- NHAI and state PWDs report **20-30% cost savings** from performance-based contracts by **reducing repeated maintenance and eliminating post-resurfacing repair costs.**

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2 main gaps in existing BBMP contracts - payment model and quality monitoring mechanism

Two types of road maintenance contracts currently used by BBMP-

	① Resurfacing / relaying of roads	② Regular maintenance of roads
Scope of work	Milling, surface preparation, blacktopping, compaction, and finishing	Pothole fixing, footpath repair, kerb stone fixing, drain desilting, etc.
Tender frequency	Every 4 to 5 years for selected roads	Annual- on a need basis
Average contract value	INR 1-2 Cr/km	INR 12-20 L/km
Contract tenure	6-8 months for works + 24 months of DLP[1]	12 months
Payment mechanism	Monthly payment as per bill submitted by contractor	
Quality monitoring	Visual inspection by zonal engineers, geo-tagged images submitted by contractors	
Issue rectification	Penalty on a per pothole/issue basis[2]; no fixed time allotted for the rectification of the issue	

Key issues identified

- Ⓐ Resurfacing / Relaying: Full payment made before completion of defect liability period **for resurfacing works removing contractor's incentive to address defects during DLP**
- Ⓑ Regular maintenance: Need-based tendering post identification of defects **for maintenance work causing delayed routine upkeep and increased long-term costs - no incentive for contractors to**
- Ⓒ Visual monitoring mechanism **lacking objectivity resulting in inconsistent assessments and weak enforcement of quality standards**
- Ⓓ Lack of timelines and enforcement mechanism **for issue rectification leading to delayed repairs and prolonged public inconvenience**

---

[1] Defect Liability Period- Guarantee period after the completion of project, during which the contractor is responsible for fixing any defects at their own cost.

[2] Penalty of INR 10,000 per pothole/defect per day is charged

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Roads O&M constitutes ~62% of BBMP's operation and maintenance budget

BBMP Budget (FY 2025-26)	
Category of O&M works	**Budget (INR Cr)**
Roads	**873**
Lakes and Parks	177
Electrical	117
Building	100
Drains	97
Others	51
Total O&M Budget	**1,414**

62% **Of total O&M budget spent on roads**

Road-wise Budget (FY 2025-26)	
Category of roads	**Budget (INR Cr)**
Arterial and Sub Arterial Roads	**700**
Collector and Local Street Roads	133
Flyovers/Subways/ROB/RUB	40

- **80% of the budget spent** on maintenance of arterial and sub-arterial roads (like Old Madras Road, Mysore Road, Outer Ring Road)
- **INR 394 Cr[1] (45%) reserved for resurfacing/ relaying of 390 km of selected arterial and sub-arterial roads across 8 zones**

---

[1] Total value of the project is INR 694 Cr divided across FY 2024-25 and FY 2025-26

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Executive Summary | Potential to improve service quality to citizens and unlock savings for BBMP by transitioning to PBMCs, modifying payment terms and strict enforcement of KPIs, SLAs and penalties

- **~62% of BBMP O&M budget (~873 Cr) spent towards O&M for roads;** ~700 Cr spent on arterial and sub-arterial roads
- 2 types of maintenance contracts prevalent with following key concerns:
  - **Resurfacing / relaying of roads**
    - 100% payment upon completion of work, no amount withheld to ensure satisfactory removal of defects during DLP of 24 months
  - **Regular maintenance of roads**
    - Ad-hoc need-based tendering post identification of defects; resulting in delayed routine upkeep and increased costs - limited incentive for contractors to ensure adequate maintenance quality
- Additionally, defects primarily identified basis visual inspection without strict timelines and enforcement mechanism for issue rectification

3 key recommendations for BBMP across contracts for both resurfacing / relaying and maintenance:

1. **Resurfacing / relaying of roads**
   - Introduce new 80:20 payment structure - 80% to be paid on work completion, 20% to be withheld and paid as per SLA compliance during DLP
   - Define KPIs (eg: roughness index), SLAs and penalties for issue rectification
2. **Regular maintenance of roads**
   - Transition from ad-hoc need based tendering to performance-based contracts with a fixed sum to be paid per km / month to ensure road maintenance
   - Define KPIs, frequency of inspection, SLAs and penalties - responsibility of contractor to ensure adherence to defined KPIs
3. Incorporate use of Raste Gundi Gamana app (updated with contractor access) and geo-tagged images to track timelines and quality of issue rectification

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Note: PBMC Performance based maintenance cont[illegible]t liability period

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2. Project Structuring and Development Models for Key Infrastructure Projects 7
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    - 2.2. Integrated Solid Waste Management 43

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    - 3.1. List of Levers to Augment Revenue for BBMP 62
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4. Innovative Financing & Funding Mechanisms 176
    - 4.1. Innovative Financing Instruments and Funder Outreach 177
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7. BBMP Training Plan 289

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GBA | Proposed review cadence to support effective governance & monitoring

Forum	Frequency	Participants	Responsibility & review agenda
High-Power Review	Monthly	Chief Commissioner, Special Commissioner (Projects)	Overall portfolio progress, fund utilization, escalated issues across departmental works
Projects Review	Fortnightly	Special Commissioner (Projects), Chief Engineers (Road Infra / SWD/other works)	Progress across departments; inter-department coordination; fund usage
Departmental Infra Review (SWD / Roads)	Weekly	Chief Engineer (Road Infra / SWD/other works), Superintendent Engineers	Department-level performance on work progress, delays, issues with contractors
Zonal Review (Ward-wise tracking)	Weekly	Superintendent Engineers, Executive Engineers	Zone-wise review of active packages, approvals, worksite bottlenecks
Field Operations Review	Weekly	Assistant Engineers, Site Supervisors, Contractors	Field-level micro-status review: daily progress, labour deployment, material supply, markings
Land & Utility Coordination Review	Weekly	DC (Estates and Land), Surveyors, BBMP executive engineers, Superintendent Engineers	Clearance delays, drain re-routing issues, trench cutting coordination
Billing & Payments Review	Weekly	Finance Officers, Planning Cell, Executive Engineers	Bill submission and verification status, contractor payments, fund reconciliation

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B-SMILE | Proposed review cadence to support effective governance & monitoring

Forum	Frequency	Participants	Responsibility & review agenda
High Power Review	Once in 2 months	Chairman, MD, CEO, Members of Technical Committee, Director (Technical)	Review overall portfolio progress vs. targets, funding utilization, and key bottlenecks
Overall Project Review	Monthly	CEO, Director (Technical), and Members of Technical Committee	
Project Review (by Project Type) *(Tunnel, Elevated Corridor, Roads)*	Bi-weekly	CEO, Director (Projects & Planning 1 & 2), Relevant Chief Engineers (Civil, Electrical, Design), Finance & Contracts Leads	Track DPR status, tendering timelines, contractor mobilization, early construction progress; flag cross-functional delays
Section Review *(Stretch/Package-level)*	Weekly	Director (Technical), Assigned Chief Engineer, Additional Engineers, Survey & Utility Team (as needed)	Review land readiness, utility shifting status, civil execution milestones, local coordination issues, and traffic management measures
Contracts & Planning Review	Fortnightly	GM (Finance, HR & IT), , Project engineer (Contracts), Addl. GM (Finance)	Scrutiny of bid timelines, contractor performance, contract risks, and planning coordination across project teams
Land & Utility Coordination Review	Fortnightly	Special DC (Land), Surveyors, Tahsildars, Directors (Technical), Civil Engineers	Resolve pending land issues, utility clearance delays, and documentation for site handovers
Core Group Review	Monthly	CEO, Company Secretary, Directors	Discuss policy matters, funding approvals, inter-agency escalations, and grievance summaries

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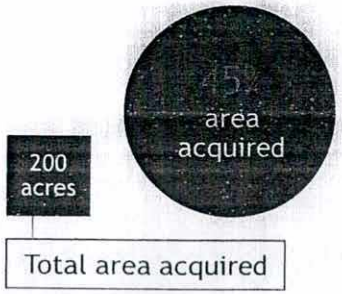
Project Overview Dashboard (B-SMILE)

Illustrative

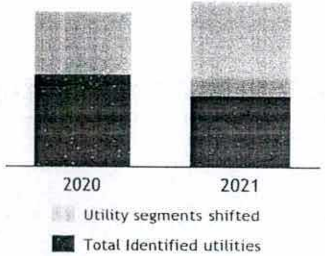
Project Name ▼ *North south tunnel*
Contractor ▼ *XYZ Ltd.*
Project Code ▼ *12345678*
Status ▼ *On track*
Stage of work ▼ *Tender*
Forecasted completion date ▼ *05/06/2030*
Timeframe ▼ 2025 – 2029
Total planned Project cost ▼ *2,000 INR Cr*

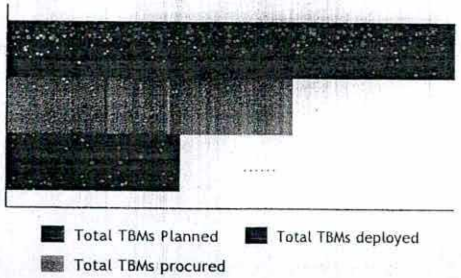
Pre-Construction

Land Acquired

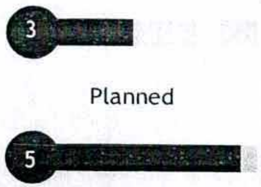


Utility Shifting



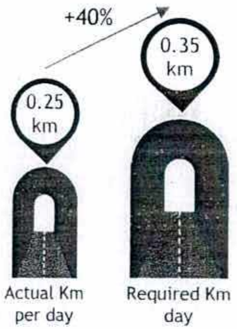


No. of shaft construction completed

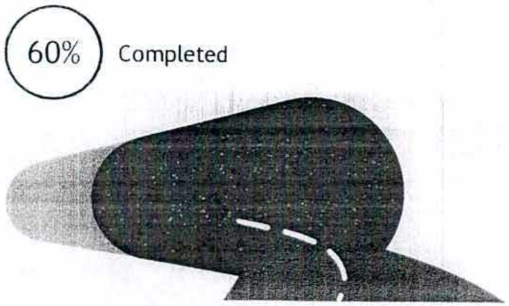


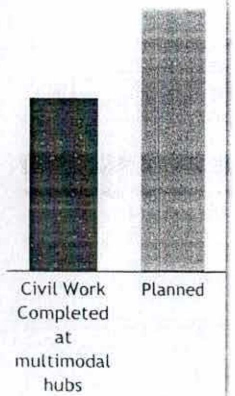
Construction

Avg. Pace of work vs required pace of work

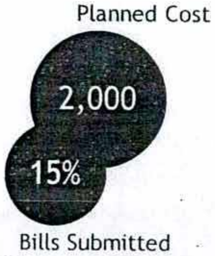


Tunnel Excavation Completed vs Planned (Physical)

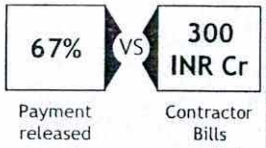




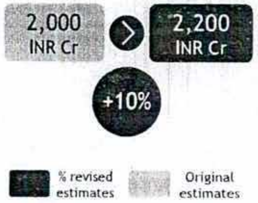
Bill submitted VS Planned Cost (INR Cr)



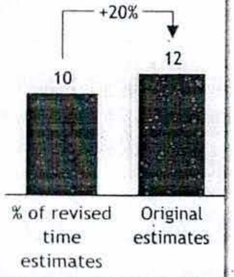
Payment released VS Contractor Bills



Cost Overrun



Time Overrun



Note: Values in dashboard are "dummy data" and does not reflect BBMP's existing or target values

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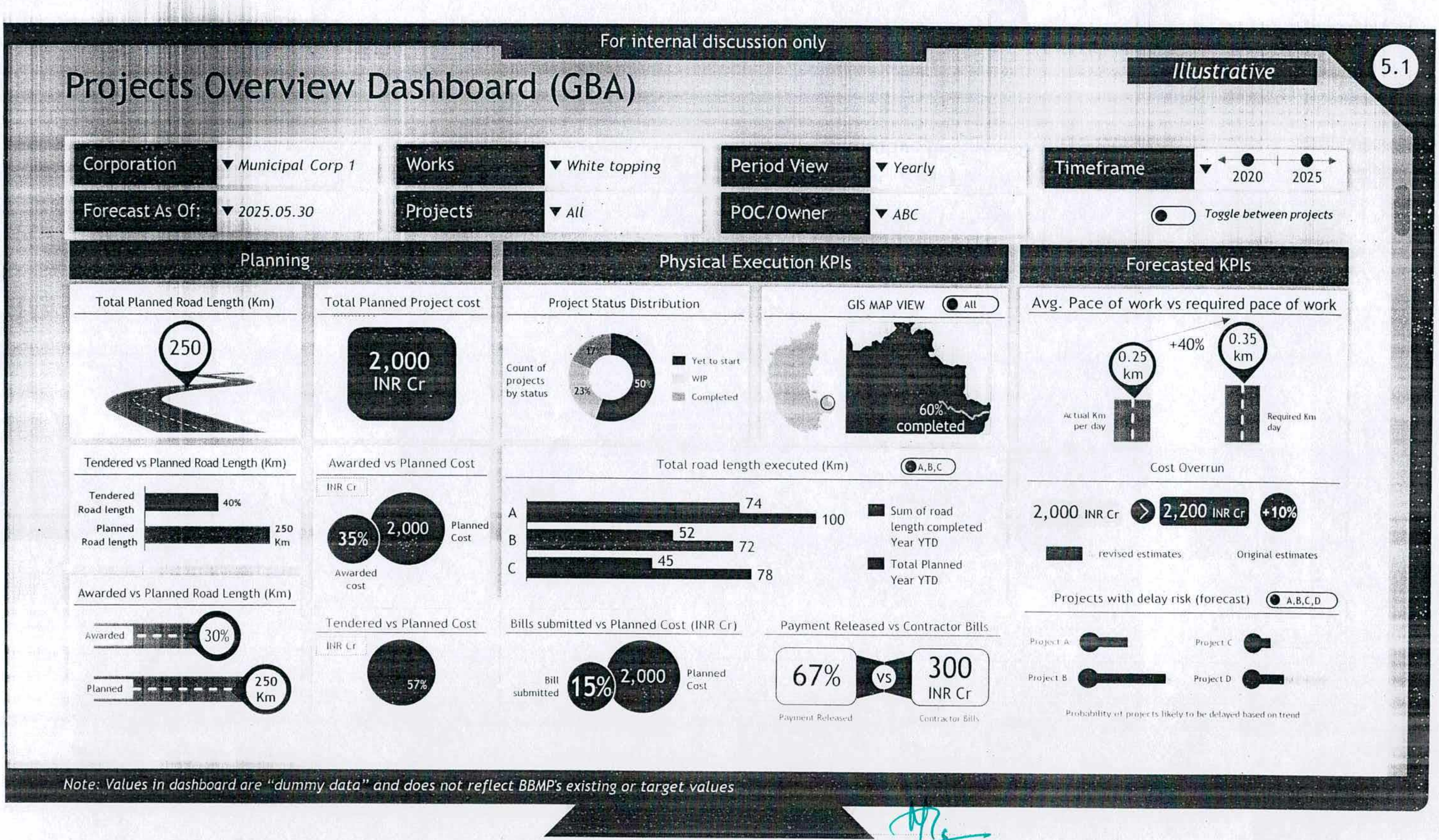

Projects Overview Dashboard (GBA)

Illustrative

Corporation	▼ *Municipal Corp 1*	Works	▼ *White topping*	Period View	▼ *Yearly*	Timeframe	▼ 2020 – 2025
Forecast As Of:	▼ *2025.05.30*	Projects	▼ *All*	POC/Owner	▼ *ABC*		*Toggle between projects*

Planning

Total Planned Road Length (Km)

250

Total Planned Project cost

2,000 INR Cr

Tendered vs Planned Road Length (Km)

Tendered Road length
40%
Planned Road length
250 Km

Awarded vs Planned Cost

INR Cr
35%
Awarded cost
2,000
Planned Cost

Awarded vs Planned Road Length (Km)

Awarded
30%
Planned
250 Km

Tendered vs Planned Cost

Physical Execution KPIs

Project Status Distribution

Count of projects by status
17%
23%
50%
Yet to start
WIP
Completed

GIS MAP VIEW ● All

60% completed

Total road length executed (Km) ● A,B,C

A
74
100
B
52
72
C
45
78
Sum of road length completed Year YTD
Total Planned Year YTD

Bills submitted vs Planned Cost (INR Cr)

Bill submitted
15%
2,000
Planned Cost

Payment Released vs Contractor Bills

67%
Payment Released
VS
300 INR Cr
Contractor Bills

Forecasted KPIs

Avg. Pace of work vs required pace of work

0.25 km
Actual Km per day
+40%
0.35 km
Required Km day

Cost Overrun

2,000 INR Cr
2,200 INR Cr
+10%
revised estimates
Original estimates

Projects with delay risk (forecast) ● A,B,C,D

Project A
Project C
Project B
Project D

Probability of projects likely to be delayed based on trend

Note: Values in dashboard are "dummy data" and does not reflect BBMP's existing or target values

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Overall Project action plan dashboard

Illustrative

Corporation ▼ *All*

Forecast As Of: ▼ *2025.05.30*

Works ▼ *All*

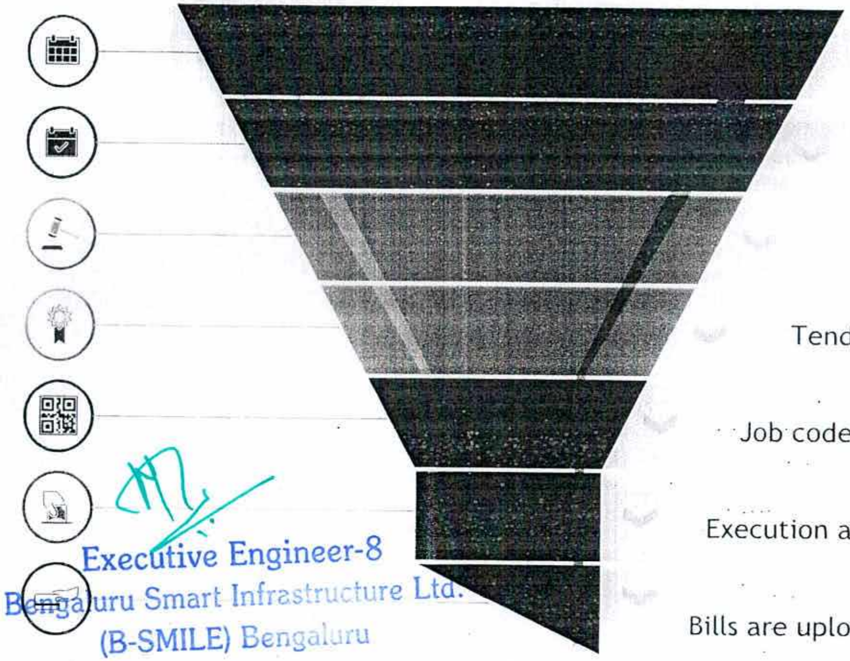
Projects ▼ *All*

Period View ▼ *Yearly*

POC/Owner ▼ *ABC*

Timeframe ▼ ● 2020 ● 2025

● *Toggle between projects*



Action Plan of a Project (Approved by GoK)	
Grants earmarked	*INR 2,000 Crore*
Tenders are floated	*INR 800 Crore*
Tenders are awarded	*INR 700 Crore*
Job code is created	
Execution and bills submitted	*INR 300 Crore*
Bills are uploaded for payment as per milestone	*INR 200 Crore*

Note: Values in dashboard are "dummy data" and does not reflect BBMP's existing or target values

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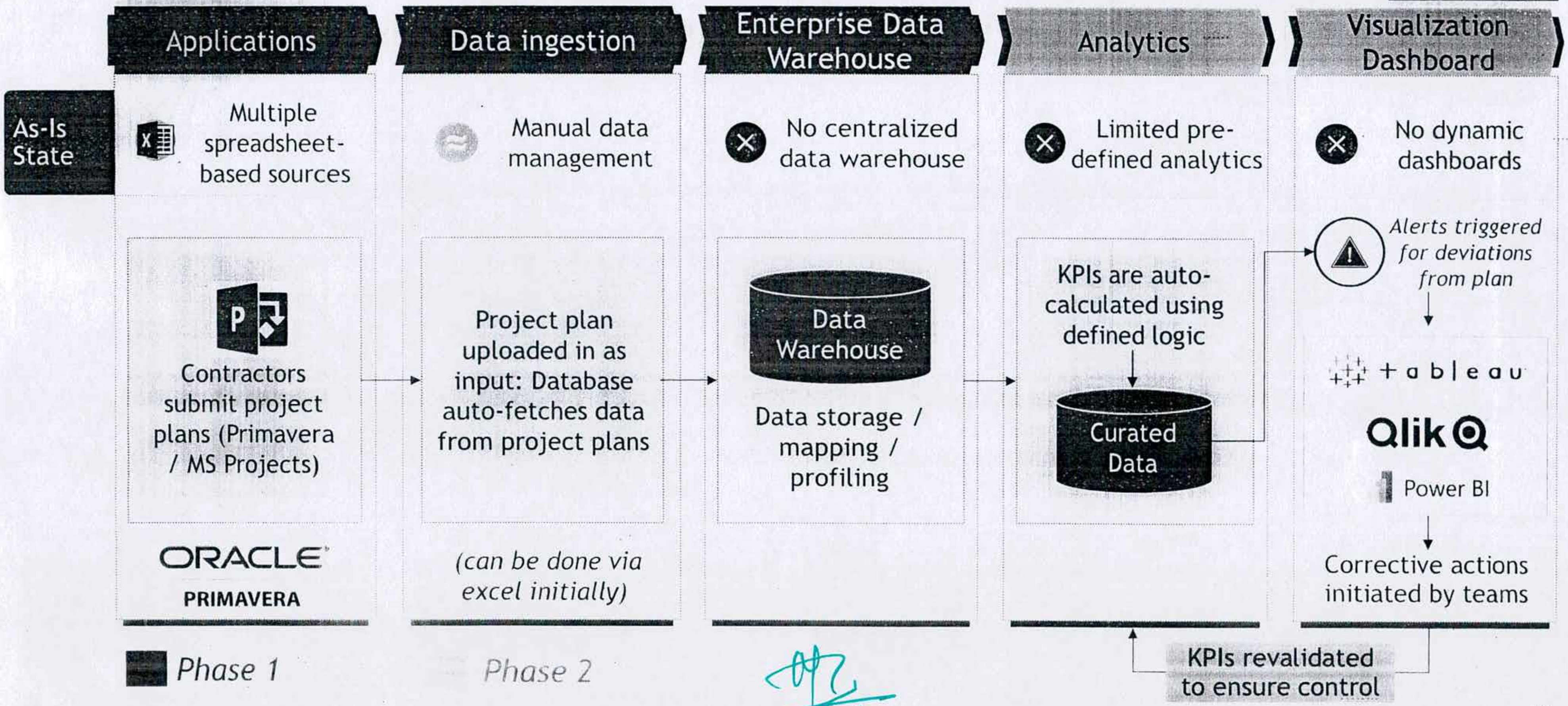
Re-imagined Data Journey | Enabling end-to-end visibility and control through centralized data, automated KPIs, and real-time visual insights

Preliminary



Applications

As-Is State: Multiple spreadsheet-based sources

Contractors submit project plans (Primavera / MS Projects)

ORACLE PRIMAVERA

Data ingestion

As-Is State: Manual data management

Project plan uploaded in as input: Database auto-fetches data from project plans

(can be done via excel initially)

Enterprise Data Warehouse

As-Is State: No centralized data warehouse

Data Warehouse

Data storage / mapping / profiling

Analytics

As-Is State: Limited pre-defined analytics

KPIs are auto-calculated using defined logic

Curated Data

Visualization Dashboard

As-Is State: No dynamic dashboards

Alerts triggered for deviations from plan

tableau

Qlik

Power BI

Corrective actions initiated by teams

KPIs revalidated to ensure control

Phase 1

Phase 2

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Project monitoring through auto-calculated KPI dashboards based on uploaded project plans & real time data to enable monitoring & timely interventions

Illustrative: Road works KPIs

Category	KPI Description
Planning	Total Planned Road Length (Km)
	Tendered Road Length vs Planned Road Length (Physical)
	Awarded Road Length vs Planned Road Length (Physical)
	Total Planned Project Cost (INR Cr)
	Tendered Cost vs Planned Cost
	Awarded Cost vs Planned Cost
Physical Execution KPIs	Project Status Distribution: Not Started, WIP, Completed
	GIS mapping: Planned, awarded, execution
	Physical Execution vs Awarded Length
	Bills Submitted vs Planned Cost
	Payment Released vs Contractor Bills
Forecasted KPIs	Cost Overrun: Revised estimates vs original estimates
	Avg. Monthly Progress vs Required Monthly Progress
	Projects at Risk of Delay

Illustrative: Tunnel project KPIs

Category	KPI Description
Pre-Appointment	Stage wise status: from project planning to Letter of appoinment issue
Pre-Construction	Land Acquired: Area acquired vs Total required area
	Utility Shifting: Utility segments shifted vs Total Identified utilities
	TBMs procured vs Total TBMs planned
	TBMs Deployed vs Total TBMs procured
	No. of shaft construction completed vs planned
Construction	Tunnel Excavation Completed vs Planned (Physical)
	Actual Avg. TBM progress vs Required Avg. Pace
	Civil Work Completed at multimodal hubs vs planned
	Bills Submitted vs Planned Cost
	Payment Released vs Contractor Bills
	Cost Overrun: Revised cost estimates vs original estimates
	Time overrun: Revised time estimate vs original estimates

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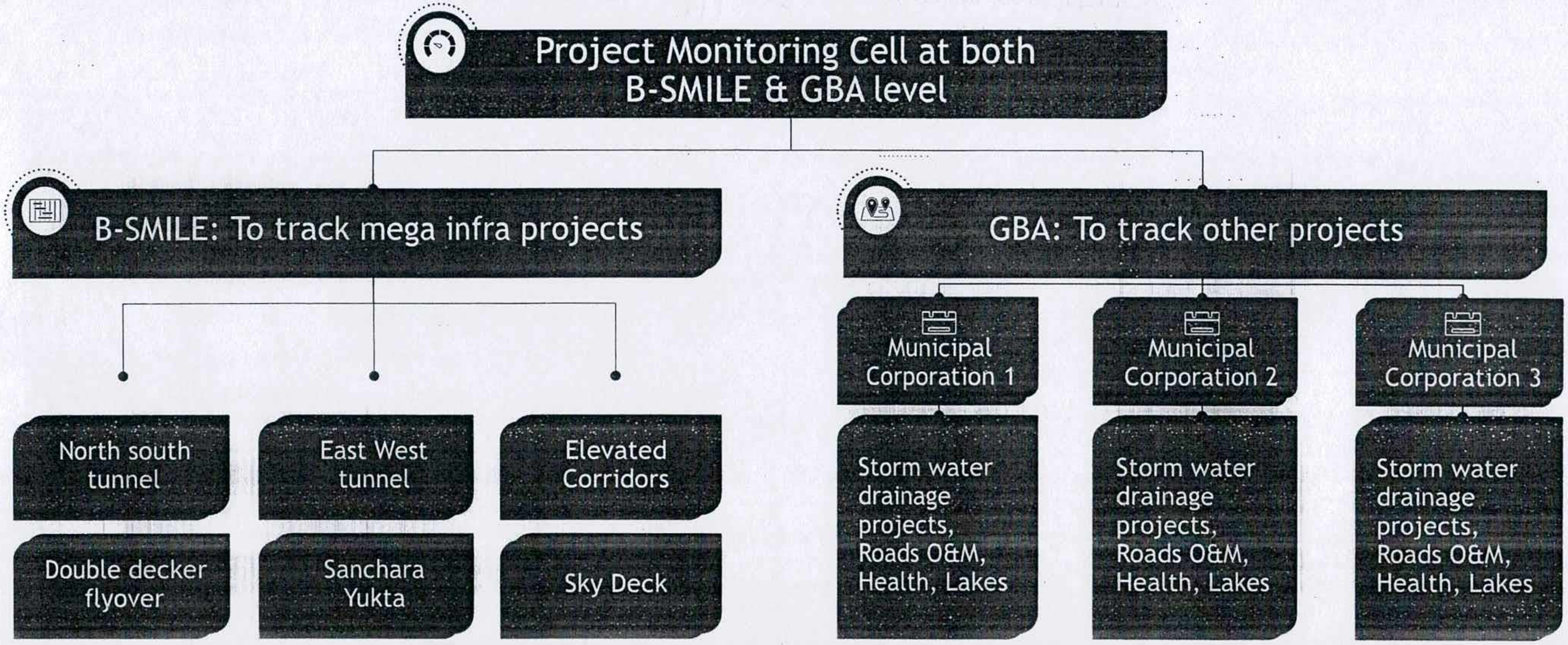
PMCs to be set up at B-SMILE, GBA, and respective municipal corporation levels to enable governance by respective leadership for capex outlays



Project Monitoring Cell at both B-SMILE & GBA level

B-SMILE: To track mega infra projects

- North south tunnel
- Double decker flyover
- East West tunnel
- Sanchara Yukta
- Elevated Corridors
- Sky Deck

GBA: To track other projects

- Municipal Corporation 1
  - Storm water drainage projects, Roads O&M, Health, Lakes
- Municipal Corporation 2
  - Storm water drainage projects, Roads O&M, Health, Lakes
- Municipal Corporation 3
  - Storm water drainage projects, Roads O&M, Health, Lakes

▨ *Dashboard / PMC* ▨ *Focal Projects*

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Ilustrative dashboard wireframes

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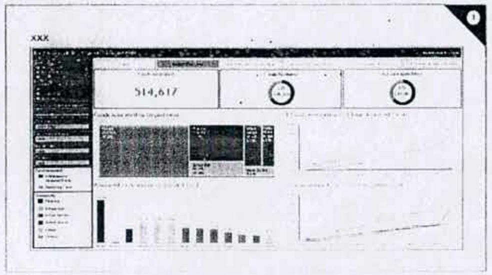
ಅಡಿಯಲ್ಲಿ ನೀ[illegible]

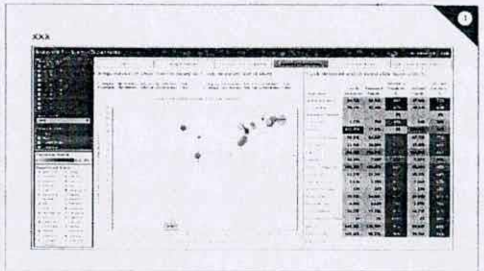
Case Study | Finance Department, Govt of Maharashtra actively leverages digital dashboards to track detailed expenditure

I Dynamic dashboards with multiple views to track KPIs

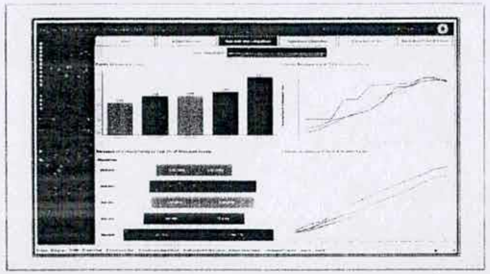
Budget Overview



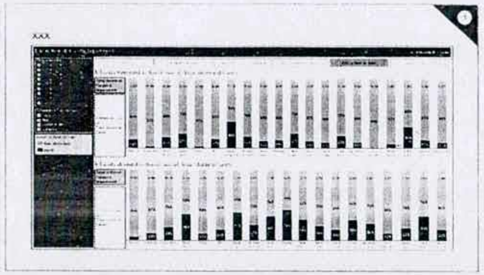
Department Wise utilization view



YoY trend



End vs Rest of Year Comparison



II Roadmap for leveraging Analytics at scale

- Multiple use cases defined for analytics and visualization basis in-dept discussions with diff stakeholders eg:
  - RTO
  - Revenue team
- New dashboards created for easy monitoring
- Data infrastructure streamlined

III Capability building: Trainings conducted and hands on sessions held for 500+ employees to use dashboards

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Case study 5: Finance Department, Government of Maharashtra

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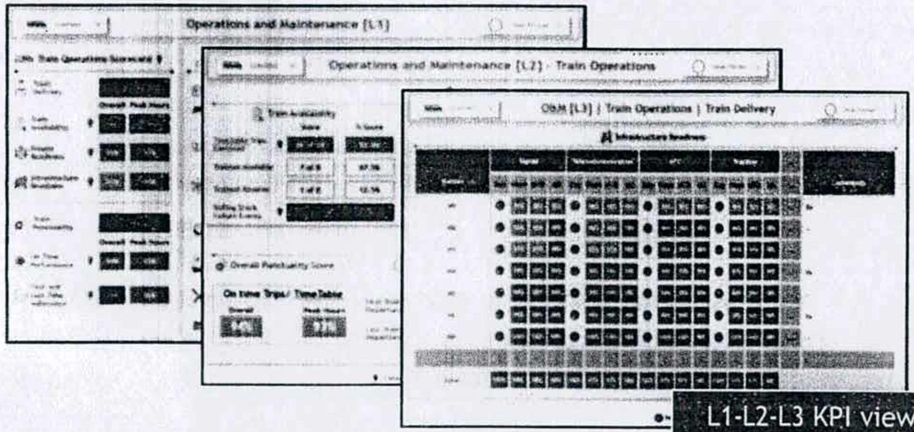
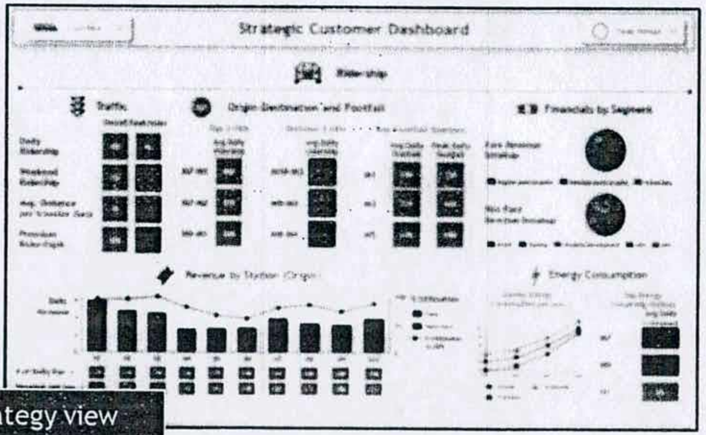
ಅಡಿಯಲ್ಲಿ ನೀಡಲಾದ ಪ್ರತಿ"

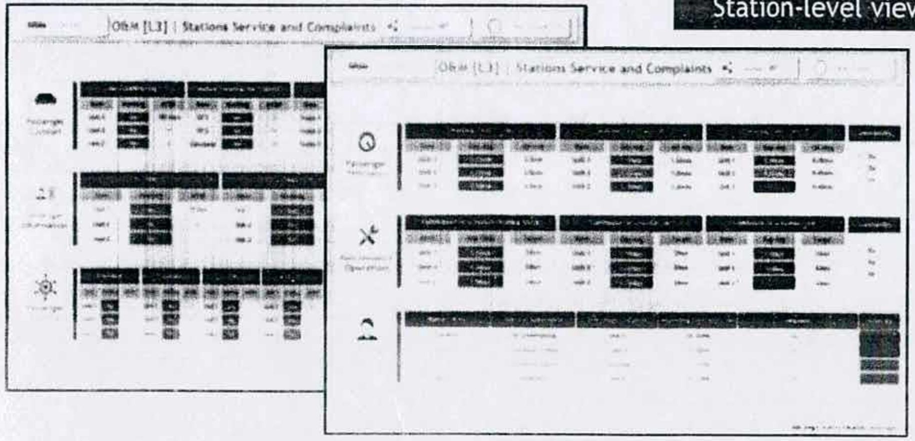
O&M monitoring: Digital tool | Multiple-tiered contextual wireframes designed for O&M monitoring, plugging all learnings & identified best practices


Operations and Maintenance (L1)
Operations and Maintenance (L2) - Train Operations
O&M (L3) | Train Operations | Train Delivery

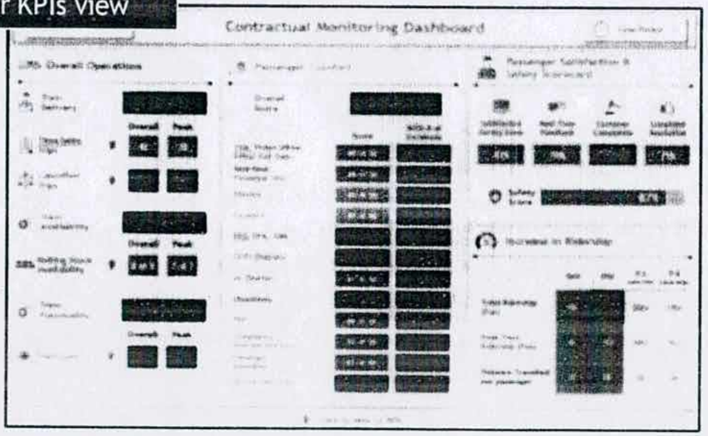
L1-L2-L3 KPI views


Strategic Customer Dashboard

Cust. strategy view


O&M (L3) | Stations Service and Complaints
O&M (L3) | Stations Service and Complaints

Station-level view


Contractual Monitoring Dashboard

Operator KPIs view

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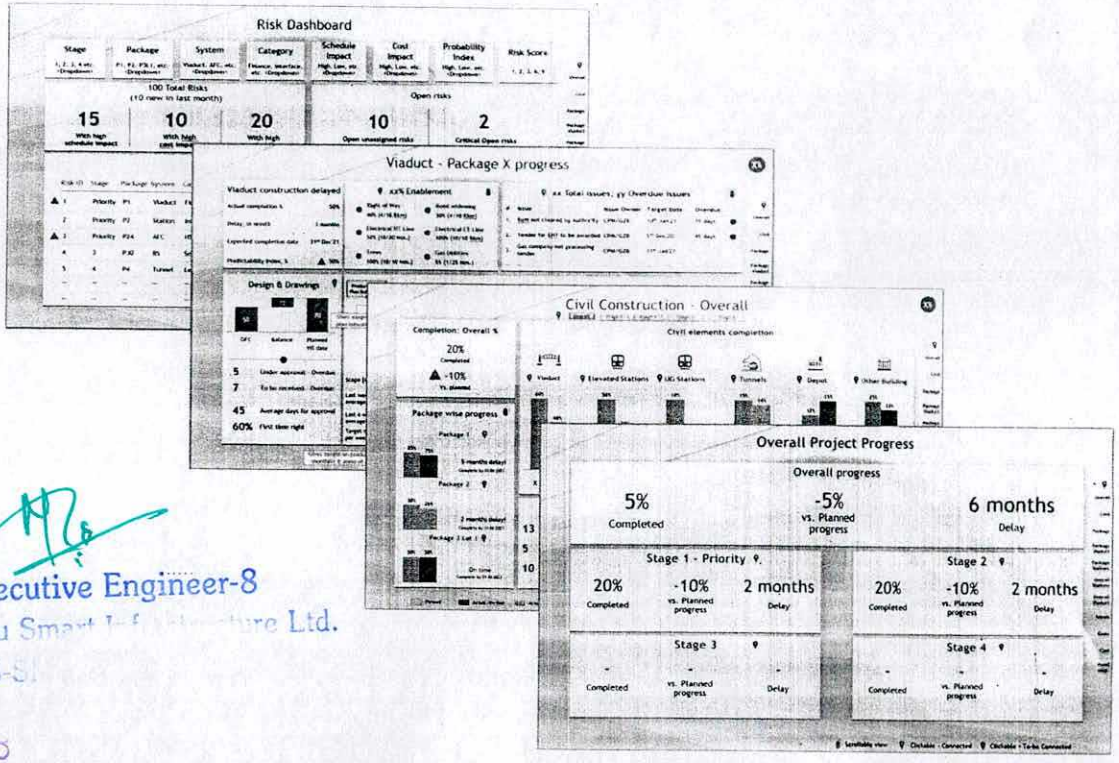
Project monitoring mechanism and dashboard developed to monitor, de-risk and accelerate projects

Project progress monitoring mechanism established

- Established end-to-end mechanism for monitoring progress across Civil & Systems work worth $4.2 Bn
- Developed comprehensive processes & dashboards to monitor work of more than 30+ contractors
- In-depth analysis of construction work with robustness and predictability analysis built in
- Multiple dashboards developed to capture progress across project-specific attributes:
  - Pre-construction work progress
  - Element-wise progress
  - Key dates and access dates for contractors
  - Issues
  - Risks
  - Costs
  - …

Multiple dashboards developed incorporating global best practices in monitoring attributes critical for project progress


Risk Dashboard
Stage
Package
System
Category
Schedule Impact
Cost Impact
Probability Index
Risk Score
100 Total Risks
(10 new in last month)
Open risks
15
With high schedule impact
10
With high cost impact
20
With high
10
Open unassigned risks
2
Critical Open risks
Viaduct - Package X progress
Viaduct construction delayed
xx% Enablement
xx Total issues; yy Overdue issues
Design & Drawings
GFC
Balance
Planned
5
Under approval - Overdue
7
To be received - Overdue
45
Average days for approval
60%
First time right
Civil Construction - Overall
Completion: Overall %
20%
Completed
-10%
Vs. planned
Civil elements completion
Viaduct
Elevated Stations
UG Stations
Tunnels
Depot
Other Building
Package wise progress
Package 1
Package 2
Package 3 Lot 1
On time
13
5
10
Overall Project Progress
Overall progress
5%
Completed
-5%
vs. Planned progress
6 months
Delay
Stage 1 - Priority
20%
Completed
-10%
vs. Planned progress
2 months
Delay
Stage 2
20%
Completed
-10%
vs. Planned progress
2 months
Delay
Stage 3
-
Completed
-
vs. Planned progress
-
Delay
Stage 4
-
Completed
-
vs. Planned progress
-
Delay
Scrollable view
Clickable - Connected
Clickable - To be Connected

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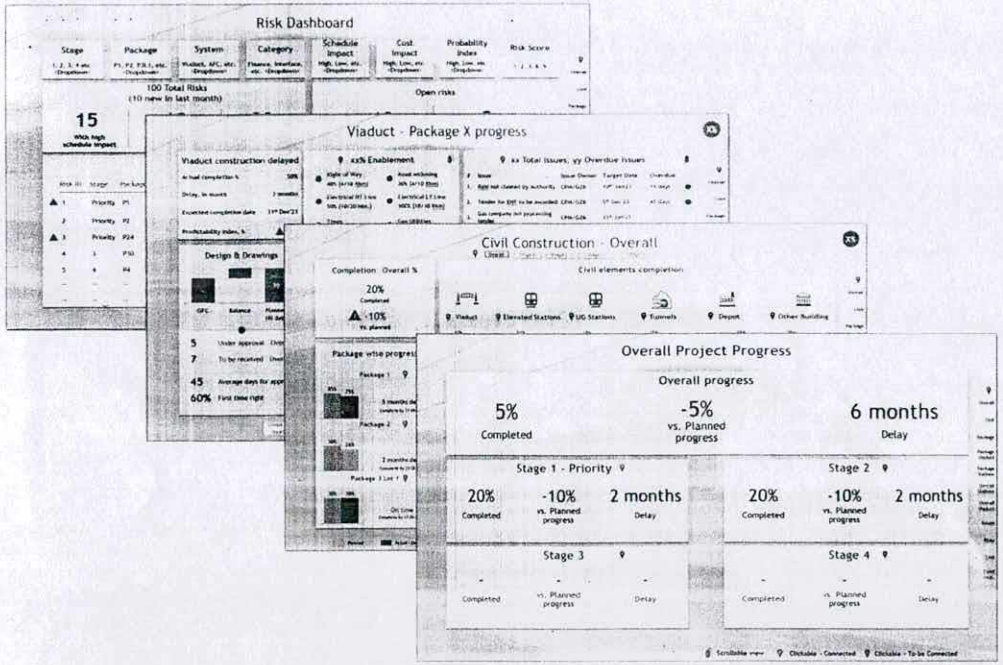
Project monitoring: Digital Tool | Industry-first project execution monitoring tool developed to give project visibility at an overall, section & package level

Individual screens created for overall, phase wise, package level as well as deep dives (e.g. cost) …



Risk Dashboard

Stage | Package | System | Category | Schedule Impact | Cost Impact | Probability Index | Risk Score

100 Total Risks
(10 new in last month)

15
Which high schedule impact

Open risks

Viaduct - Package X progress

Viaduct construction delayed

xx% Enablement

xx Total issues; yy Overdue issues

Design & Drawings

5 Under approval

7 To be received

45 Average days for approval

60% First time right

Civil Construction - Overall

Completion: Overall %

20%
Completed

▲ -10%
vs. planned

Civil elements completion

Package wise progress

Overall Project Progress

Overall progress

5%
Completed

-5%
vs. Planned progress

6 months
Delay

Stage 1 - Priority

20%
Completed

-10%
vs. Planned progress

2 months
Delay

Stage 2

20%
Completed

-10%
vs. Planned progress

2 months
Delay

Stage 3

-
Completed

-
vs. Planned progress

-
Delay

Stage 4

-
Completed

-
vs. Planned progress

-
Delay

Scrollable view · Clickable - Connected · Clickable - To be Connected

… by defining monitoring mechanisms and incorporating global best practices

- 30+ work packages (major works) & business functions completed
- 50+ metrics and 15+ attributes introduced
- Concise visual representation of progress (GIS, etc.)
- Consolidated view of packages & overall line
- Analytics to predict completion dates (viaduct, station completion etc.)
- Interdependency tracking and transparency (handover b/w depts.)
- Traffic lights used to highlight areas of focus
- Customized workflows to facilitate attribute monitoring

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Case Study 4: National Capital Region Transport Corporation (NCRTC)

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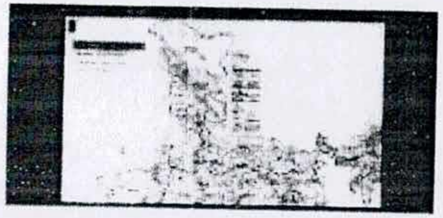
MoRTH has developed multi-level dashboards to accelerate highway construction (II/II)

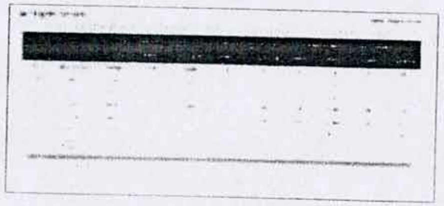
GIS view and custom dashboards to track schemes

GIS View



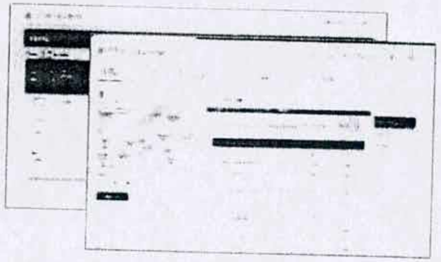
- Geo-spatial view of highway network
- Can view projects, toll plazas, traffic survey points

Program overview



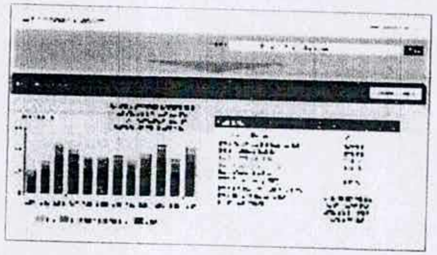
- Program wise dashboard for Bharatmala, NHDP, SARDP-NE, Char Dhaam, Sethu Bharatam, NH(O), BRT

Corridor overview



- Overview of all corridors and sub-corridors of highway network
- Further details of traffic, toll, and expenditure by each corridor, sub-corridor

Commercial overview



- Tracking toll collection at a national level- target and actual
- Cuts by project mode and tolling mode, NHDP phase, road types etc.

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MoRTH has developed multi-level dashboards to accelerate highway construction (I/II)

Dashboards for tracking at each level of hierarchy

National Overview

- Construction and award target and achievement
- Stage wise tracking of projects

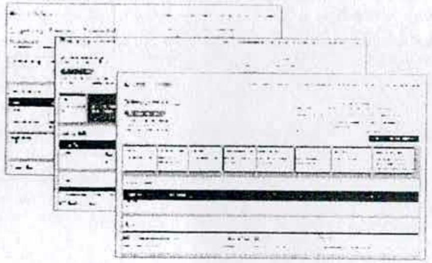
RO Overview

- Number and length under key stages and modes
- Identified focus projects

PIU—Overview

- Project milestone targets and achievements
- Status of LA and clearances

Project Dashboard



- Separate dashboard for BFA, UI & O&M Projects
- Dashboards highlight all important information with options for deep-dive

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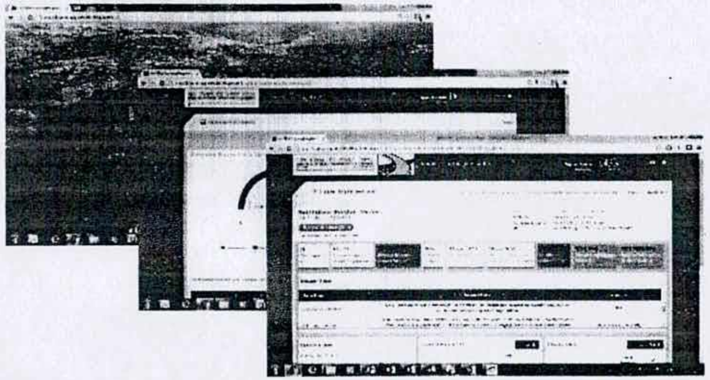
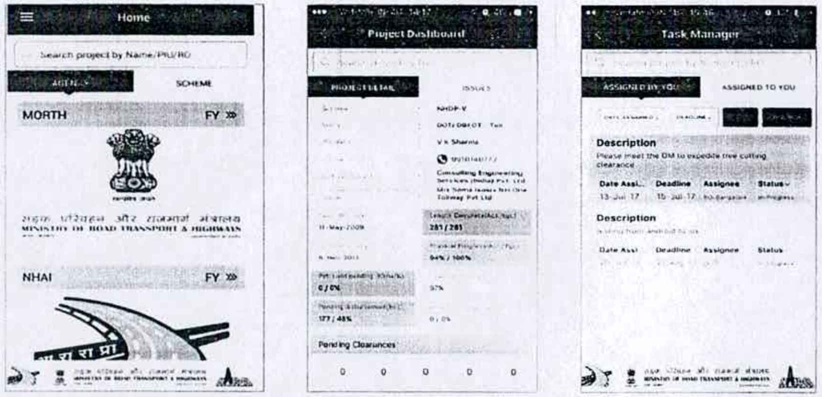
MoRTH has deployed an online Project Management Information System (PMIS) for program management

PMIS can be accessed through online portal and through App

PMIS Online portal



PMIS App


Home
Search project by Name/PIU/RO
AGENCY
SCHEME
MORTH
FY
NHAI
Project Dashboard
PROJECT DETAIL
ISSUES
Pending Clearances
Task Manager
ASSIGNED BY YOU
ASSIGNED TO YOU
Description
Date Assi...
Deadline
Assignee
Status

Key Features

- Algorithms defined to auto-identify focus projects requiring intervention and attention
- Comprehensive dashboards to enable efficient decision making during reviews
- Custom report generation ability to ensure high usage across all levels of the organization
- Single source of truth for all project related details in the ecosystem

- Developed for 'Access on the move' with customized navigation depending on requirements of user
- Project dashboards with key information required for tracking projects
- Task Manager to allocate tasks to subordinate officers
- Photo upload, check-ins for enhanced visualization at HQ/RO

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Case study 3: Ministry of road transport & highways (MoRTH)

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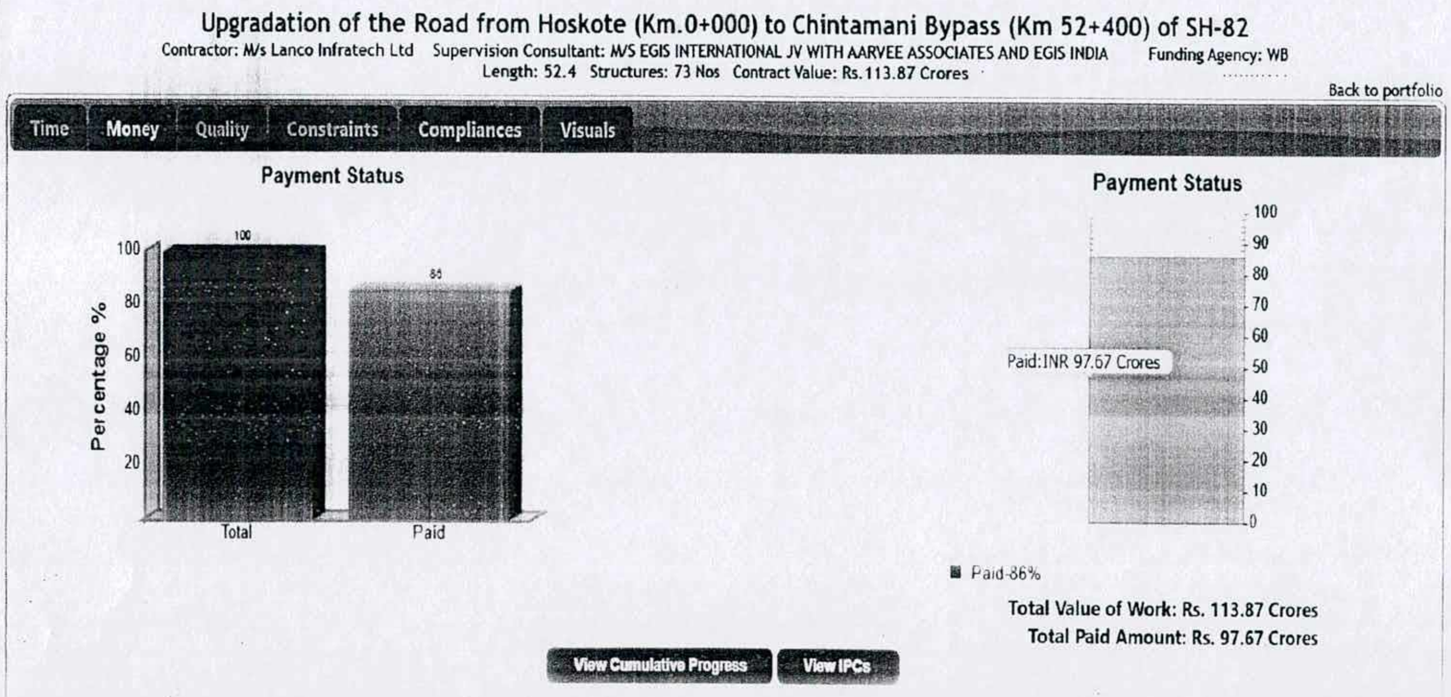
ಅಡಿಯಲ್ಲಿ ನೀಡ

KSHIP dashboards enabling real-time monitoring of road project performance across time, cost, quality, and compliance



Upgradation of the Road from Hoskote (Km.0+000) to Chintamani Bypass (Km 52+400) of SH-82

Contractor: M/s Lanco Infratech Ltd Supervision Consultant: M/S EGIS INTERNATIONAL JV WITH AARVEE ASSOCIATES AND EGIS INDIA Funding Agency: WB

Length: 52.4 Structures: 73 Nos Contract Value: Rs.113.87 Crores

Back to portfolio
Time
Money
Quality
Constraints
Compliances
Visuals
Payment Status
Percentage %
100
80
60
40
20
100
86
Total
Paid
Payment Status
100
90
80
70
60
50
40
30
20
10
0
Paid:INR 97.67 Crores
■ Paid-86%
View Cumulative Progress
View IPCs

Total Value of Work: Rs. 113.87 Crores

Total Paid Amount: Rs. 97.67 Crores

The KSHIP dashboards are being used to monitor the highway projects:

- Timeline & Progress Tracking: Monitors planned vs actual milestones to flag delays
- Cost & Payment: Track budget variance & contractor payment status
- Quality KPIs: Evaluates adherence to construction standards
- Compliance Ratings: Assesses contractual conformance
- Visual Progress: Uses dashboards, photos, and videos for status reporting

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Case study 2: Karnataka State Highways Improvement Project (KSHIP)

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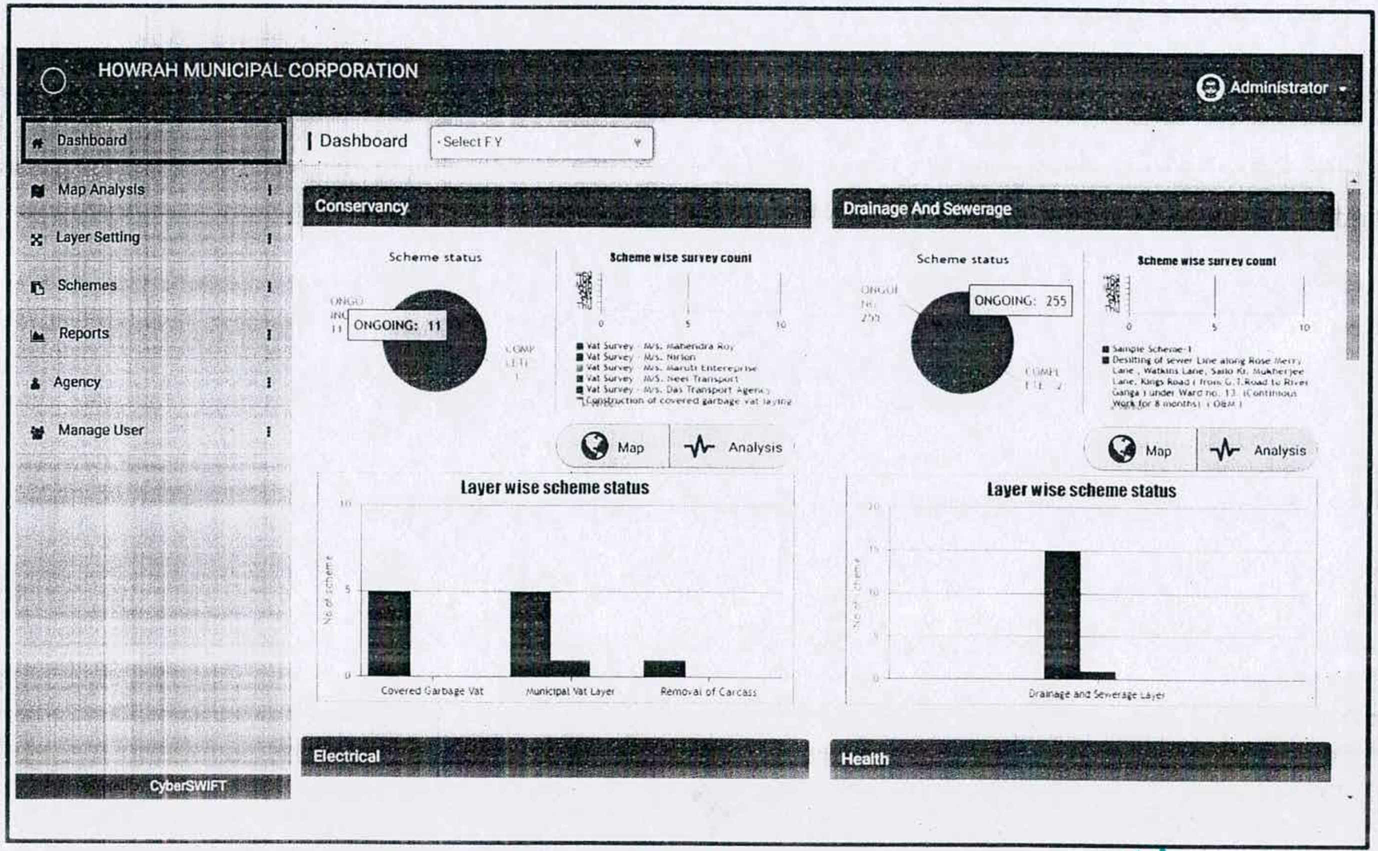
Howrah Municipal Corp. driving efficient project execution via digital dashboard for real-time monitoring, faster payments, & informed decision-making


HOWRAH MUNICIPAL CORPORATION
Administrator
Dashboard
Map Analysis
Layer Setting
Schemes
Reports
Agency
Manage User
CyberSWIFT
Dashboard
Select F.Y.
Conservancy
Scheme status
ONGOING: 11
COMPLETE 1
Scheme wise survey count
0
5
10
Vat Survey - M/s. Mahendra Roy
Vat Survey - M/s. Nirion
Vat Survey - M/s. Maruti Enterprise
Vat Survey - M/S. Neer Transport
Vat Survey - M/s. Das Transport Agency
Construction of covered garbage vat laying
Map
Analysis
Layer wise scheme status
No. of scheme
0
5
10
Covered Garbage Vat
Municipal Vat Layer
Removal of Carcass
Drainage And Sewerage
Scheme status
ONGOING: 255
COMPLETE 2
Scheme wise survey count
0
5
10
Sample Scheme-1
Desilting of sewer Line along Rose Merry Lane, Watkins Lane, Sailo Kr. Mukherjee Lane, Kings Road (from G.T.Road to River Ganga) under Ward no. 13. (Continuous Work for 8 months) (O&M)
Map
Analysis
Layer wise scheme status
No. of scheme
0
5
10
15
20
Drainage and Sewerage Layer
Electrical
Health

- Enabled senior officials to monitor project progress remotely, eliminating the need for manual site visits and reliance on paper-based updates
- Field officers and vendors captured real-time updates via SPMS App including physical and financial progress, photos, and videos, ensuring transparency
- Made payment disbursal safer and faster by tying it to verifiable field data, reducing dependency on manual validations
- Centralized all project data, enabling instant and accurate report generation for senior leadership like the CMO and Mayor
- Introduced modules to prioritize road maintenance based on actual condition and identify delayed projects early through milestone-based tracking.

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ಅಡಿಯಲ್ಲಿ ನೀಡಲಾದ ಪ್ರತಿ"

Case study 1: Municipal Corporation of Howrah

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[illegible]

"ಮಾಹಿತಿ ಹಕ್ಕು ಕಾಯ್ದೆ–2005ರ
ಅಡಿಯಲ್ಲಿ ನೀಡಲಾದ [illegible]"

For internal discussion only

Multiple Infrastructure ministries and State Governments are leveraging Strategic Project Management Cells

Infrastructure

1. Ministry of Road Transport & Highways ✓
2. National Capital Region Transport Corporation ✓
3. Ministry of Shipping
4. Airport Authority of India
5. Delhi Mumbai Industrial Corridor Development Corporation

State Governments

1. Govt. of Andhra Pradesh
2. Govt. of Gujarat
3. Govt. of Maharashtra ✓
4. Govt. of Karnataka (K-SHIP Project) ✓

Municipal corporations

1. Rajkot urban development authority
2. Howrah Municipal corporations ✓
3. Municipal corporation of Delhi

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✓ Deep dives ahead

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ಅಡಿಯಲ್ಲಿ ನೀಡಲಾದ ಪ್ರತಿ"

A digital war room with integrated project dashboards to track crucial KPIs will enable end-to-end monitoring of critical projects

2

Risk tool

Digital assistant for identifying, assessing, & proactively mitigating risks

1

Project Dashboards

One stop shop with exception-based review and forward-looking insights

3

Action tracker

Real time tracker for monitoring all key open/overdue tasks

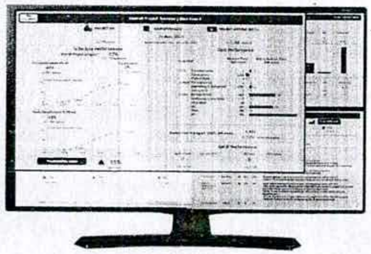
4

Issue tracker

Single window view of all impending issues, with resolve times, owners etc.

Screen 2

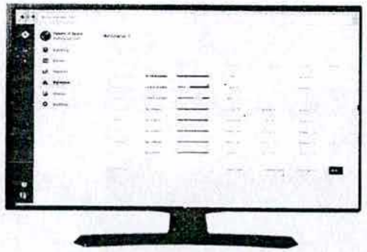
Screen 3



Screen 1

Digital War Room

Screen 4



Governance mechanism

- Pre-defined cadence with specific owners for agenda items
- Established validation mechanism for progress updates

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ಅಡಿಯಲ್ಲಿ ನೀಡಲಾದ ಪ್ರತಿ"

Tracking relevant KPIs can be an effective way to track progression of projects through live information systems

Non-exhaustive

What should be tracked as the project goes forward?

Project Preparation	DPR Preparation	PMO tracks timelines and issues
	LA and Clearances	
Construction	Appointment of Contractor	PMO tracks timelines (Target vs Actual), financial and issues
	Selection of IE/AE	
	Physical progress	
Maintenance	Adherence to prescribed quality	PMO tracks implementation and compares to best practices
	Toll collection through ETC	

Source: BCG experience

Smart KPIs can be effective performance tracking tools if chosen properly

Successful KPIs should be

- ✓ Feasible
- ✓ Measurable with reasonable effort
- ✓ Transparent and objective
- ✓ Accepted by the organization
- ✓ Useful for steering
- ✓ Variable (fast changing)
- ✓ Robust against manipulation and bias
- ✓ Few but powerful

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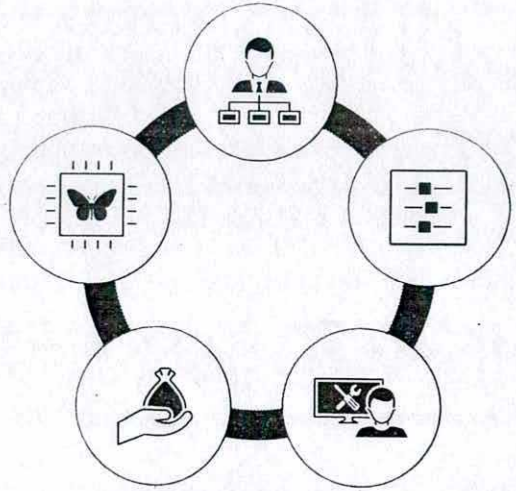
A dedicated Project Management Cell (PMC) can ensure coordinated and timely execution

Strategic Project Management Cell (SPMC)



Establish Digital War-room

- Design of digital war-room and digital dashboards
- Setting up of digital war-room for access in office, over iPad/phone
- Support with ongoing updation of dashboards and summary of progress
- Design and track KPIs to monitor progress
- Setting up of governance structure & review mechanism
- Overall program governance
- Regular review mechanism for project update, issue resolution, and follow-ups

Project Budgeting

- Track project budgets and assess project feasibility
- Prepare regular updates for executive committee meetings

Project Governance

- Establish governance and review structure for project delivery
- Implement control processes and manage implementation risks
- Coordinate stakeholder mgmt. and ensure effective communication
- Resolve conflicts to maintain project momentum

Establish Master Schedule and drive Schedule Monitoring

- Establish master timeline plan for all critical projects for "Brand Bengaluru"
- Define key activities and milestones
- Define key metrics to monitor (E.g., Right of Way %, Physical progress %, etc.)
- Set up project tracking tools
- Track financial results and deviations from targets

Execution support

- Identify and help flag emerging issues
- Identify countermeasures for deviations from targets
- Outline support required by project teams

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There are multiple potential issues that could delay a project or result in cost overruns

Non-exhaustive

A Concept Planning and Design

- Delays in technical consultant selection and appointment
- Delays in site selection
- Inaccuracy in survey, investigation, route alignment/site mapping
- Incomplete/Inaccurate Proposal Submission incl. incorrect construction mode recommendation
- Repeated Revisions in proposals (and delays during iterations)
- Inadequate land availability
- Inadequate consultation of stakeholders leading to legal disputes and protests

B Concessionaire/contractor/ vendor onboarding

- Delays in preparation and finalization of tenders for onboarding concessionaires/contractors/vendors
- Inadequate response from market to tenders
- Delays in evaluation of tenders and award of contracts
- Delays by concessionaires/contractors/ vendors in signing agreements and financial closure

C Implementation Phase

- Inadequate resource mobilization
- Inefficient coordination among subcontractors leading to scheduling conflicts & delays
- Delays in physical progress vs. initial proposed plan
- Inadequate system to verify the quality and status of works completed
- Lapses in coordination while dealing with multiple Government bodies
- Unclear right of way due to unacquired land parcels or legal disputes or illegal encroachments
- Challenges in upgrading utilities and delays by contractor in shifting utilities
- Unanticipated sub-surface utilities, resulting in redesigns and delays
- Poor planning/mitigation efforts for affected stakeholders leading to social issues

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ಅಡಿಯಲ್ಲಿ ನೀಡಲಾದ ಪ್ರತಿ"

The upcoming infrastructure projects are complex and involve multiple sub-processes & activities which need to be handled in a streamlined fashion

Snapshot of key activities performed

Pre construction	Techno commercial feasibility assessment	Clearances (env., forest, rail, etc.)	Project strategy
	Contract documents	Detailed project report	Project structuring
	Financial closure	Project appraisal	Procurement document
	Stakeholder consultation	Land acquisition	Project scheduling
Construction	Mobilization	Project construction	Billing and Financial management
	Approval for utility shifting	Change of scope	Quality assurance
	Appointment of Supervision Engineer	Project monitoring and supervision	Completion of implementation
	Design approval	Various construction approvals	
Operational	Maintenance activities	Revenue collection (if applicable)	Cash flow assessment
	Project cost management	Usage/Traffic monitoring	Cash flow planning
	Appoint O&M agency	Transfer of asset	Appointment of Supervision Engineer

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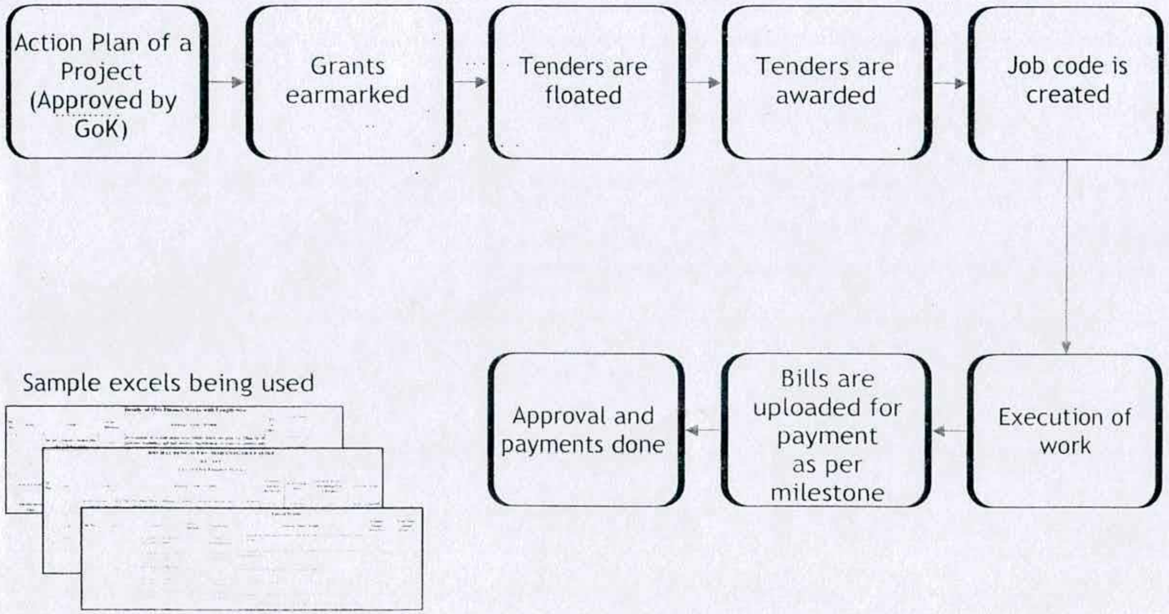
BBMP's current project monitoring is manual, fragmented and relies on legacy tools like excel - limiting efficiency and governance


Action Plan of a Project (Approved by GoK)
Grants earmarked
Tenders are floated
Tenders are awarded
Job code is created
Execution of work
Bills are uploaded for payment as per milestone
Approval and payments done

Sample excels being used

Most of the processes are a combination of manual effort and traditional tools like excel

Preliminary; non-exhaustive

Data collection

- Project execution data (tenders, job codes, billing milestones) is collected manually, with Excel as the primary tool
- Treasury details are uploaded manually by the respective user department and finance teams introducing scope for human error and lag

Data transformation

- Manual effort in repetitive tasks of collating and correcting data tying up Finance resources day-to-day
- Fragmented landscape and manual reporting process
- No central hub/self-service portal that allows slicing of data/report generation in ways suitable for individuals

Reporting and analytics

- No dashboards/real-time summary reports
- Limited pre-defined analysis; no identified analytical use-cases
- Lack of focus in reporting with overloaded information; No use of visuals/graphics
- Static reports lacking drill-down capability, scenario analyses

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Current baseline and best practices

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6 key next steps for BBMP

1. Initiate and complete issuer credit rating exercise to enable access to structured and lower-cost financing
2. Proactively engage with credit rating agencies to maintain transparency and avoid downgrades due to lack of coordination
3. Establish regular engagement and touchpoints with MDBs and DFIs, keeping them informed of upcoming projects for early evaluation and better funding terms
4. Dedicated team within BBMP's Finance departments to evaluate funding rates, manage credit rating interactions, and lead capital-raising discussions
5. Monitor initiatives and funding programs by other ULBs across the country to identify and adopt relevant best practices
6. Track central government schemes (e.g., AMRUT, Urban Challenge Fund) to support financing of key projects

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State Government's Credit Quality

Karnataka's strong fiscal discipline and high-rated guarantees enhance credit outlook for ULBs like BBMP

State Government's Credit Quality

- Extent of Reliance of State Government on Transfers from the Union Government
- Economic Strength
- Revenues and Expenses
- Financial Position, Leverage Levels and Liquidity
- Quality of Reporting and Monitoring

- Strong Fiscal Discipline: Karnataka has consistently adhered to FRBM norms, maintaining fiscal deficit below the 3% limit - at 2.8% of GSDP in FY23 (RE) and projected 2.6% in FY24 (BE), with debt at ~27.5% of GSDP, better than a lot of per states
- Robust State Ratings: Karnataka's guarantee-backed entities (e.g., KSFC) are rated as high as CARE AA- (CE), reflecting the state's strong repayment capacity and boosting the credit outlook for ULBs like BBMP under its purview
- Positive Impact on BBMP: BBMP benefits from Karnataka's strong fiscal management, which can lead to improved access to funding and favorable borrowing terms

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Economic Strength | Structural advantage for BBMP driven by Bengaluru's strategic importance and high-value demographic profile

Economic strength

Demographic profile | Industrial base | Economic diversity and growth

	Rating factors	Key Performance Indicators	Strongly positioned	Weakly positioned
a	Importance of the city to the state government	Locational importance - strategic, economic, religious, tourist, etc.	State capital, largest city in the state, very large economic base and industrial hub, major tourist destination	Very small size city in the state
b	Population profile	Educational profile of the population, type of employment, ability and willingness of the citizens to pay, slum population, etc.	Majority population involved in - IT, Manufacturing, Engineering, major services, etc.; less than 20% population living in slums	More than 50% population living in slums; High proportion of Citizen with low ability to pay tax

- Bengaluru is among the strongest positioned ULBs - as the state capital, IT & industrial hub, & a key contributor to KN's GDP
- High-value employment base (IT, biotech, aerospace, etc.) & low slum share (<20%) support a robust population profile
- These factors are structural strengths—largely outside BBMP's control, but highly favorable for its credit profile

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Inter governmental fiscal relationships | Enhancing financial independence through tax base expansion and asset-based revenues

Inter-Governmental fiscal relationship

- State government grants and devolutions
- Taxation and other revenue raising powers
- Discretionary vs rule-based obligatory transfers
- Nature and consistency of fund transfer

Weak – Strong

Rating factors	Key Performance Indicators	KPI value
a Dependency on the state government	Revenue grants, devolution and assignments from the State government to the ULB/total revenue receipts of the ULB	<70% – 0-10%
b Rule-based transfers from the state government	Rule-based transfers by the State/total transfers by the State	<30% – 100-91%

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- BBMP's revenue grants averaged ~30% of total receipts over the past 2 years - placing it in a moderate dependency band. To enhance the position, the following initiatives would be crucial:
  - Launch of Capital Value System (CVS) to align property values with market rates and enhance tax collection
  - Improve trade license coverage, and monetize assets (e.g., hoardings, parking, land parcels) to reduce grant reliance

Quality of reporting, monitoring & reforms | E-governance & accounting systems in place; property tax reforms underway with CVS & GIS integration

Quality of reporting, monitoring and reform efforts

- Management capability
- Adequacy of existing structure, systems and control
- Extent of transparency in operations
- Reform orientation

Rating factors	Key Performance Indicators	Strongest	Weakest
a Ability to revise tariff for water supply/sewerage	Track record of upwards revision during the last five years as per the provisions of the Act	Upwards revision adequate to cover the growing costs of operations and support healthy surpluses	No upwards revision
b Property tax	Implementation stage of Geographical Information System, Unit Area Method, Self-Assessment System	Complete	No Plan
c Ability to revise property tax	Track record of upwards revision during the last five years as per the provisions of the Act	Upwards revision adequate to cover the growing costs of operations and support healthy surpluses	No upwards revision
d E-governance	Implementation e-governance for bill collection, grievance redressal, property tax, building permission, etc.	Complete	No Plan
e Accounting	Preparation of accrual based financial statements, regular audit of accounts	Complete	No Plan
f Disclosure	Regular disclosure of financial statements and operational indicators	Complete	No Plan
g Capacity	Adequacy/sufficiency of staff at critical positions	Satisfactory	Unsatisfactory

- Property Tax Reforms Underway: While rates were last revised in 2016, the upcoming CVS-based system under the GBA Act 2025 will align rates with market-linked guidance values; GIS mapping is also progressing to identify unassessed properties
- Strengthened E-Governance: BBMP has implemented Integrated Command and Control Centre (ICCC), enhancing grievance redressal, billing, and service integration
- Accounting & Disclosure: BBMP uses accrual-based accounting, but can enhance transparency by adopting sub-line-item disclosures like BMC for improved public reporting

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Project pipeline & execution | BBMP has delivered INR 200-1,800 Cr civic projects, showing moderate execution but with limited revenue viability

Project pipeline and execution track record

- Capital expenditure required
- Project viability
- Capacity to execute projects within budgeted cost and time
- Future cash flow adequacy and project risk

Rating factors	Key Performance Indicators	Strongly positioned	Weakly positioned
a Capacity to execute projects within budgeted cost and time	Past track record of executing large and complex project compared to the proposed projects	A number of large/complex projects executed	A few small projects executed
b Project viability	Ability of the project to generate revenue, which can be utilised for debt servicing (if any), maintenance, etc.	Revenue from some projects adequate to cover debt servicing (if any), maintenance cost, etc. and generates surplus	No revenue from any project

- Moderate Execution Capacity: BBMP has completed mid-scale projects like TenderSURE (~INR 200 Cr), white-topping (~ INR 1,800 Cr), Chord Rd flyover (~INR 70 Cr), and K-100 SWD (~INR 175 Cr), indicating reliable civic infra delivery
- Viability Still Emerging: Most projects lack revenue linkage; early efforts like the INR 80 Cr Freedom Park multilevel parking and PFAR corridor mark a shift toward monetisation
- Overall, BBMP is moderately placed on execution and revenue viability, with scope to scale revenue-backed projects

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Revenue Balance, Liquidity & Debt Profile | Revenue margins remain weak, while liquidity & leverage are strong but require caution amidst planned borrowings

Revenue balance, liquidity and debt profile

Ability to service the existing level of debt

Great surplus/Revenue

Weak ◠ Strong

Rating factors	Key Performance Indicators	KPI value
a Revenue balance	(Revenue income – revenue expenditure)/revenue income)	<5% ◠ >30%
b Liquidity	[Estimated net cash inflows + own cash and bank balance (excluding balance on account of unspent funds from various projects/schemes funded by the state/central governments)]/[(debt servicing obligation over one year + project commitments over one year]	<1x ◠ >1.5x
c Debt servicing ability	(Revenue Balance + Interest payments) / (Interest payments + Debt Repayment)	<1x ◠ >3x
d Leverage	Outstanding debt/revenue balance	<3x ◠ <1x

- Revenue Balance: BBMP's revenue balance stands at ~4-5%, placing it in the weakly positioned band, indicating that revenues are only marginally exceeding operating costs
- Liquidity & Leverage: Historically strong with low long-term debt; however, upcoming large projects may require credit lines, necessitating robust revenue stream backing
- Future Readiness: Focus on scalping up Monetisation of PFAR corridors, advertising, property tax, trade licenses, and parking is necessary to sustainably service potential debt without compromising liquidity

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Financial Strength of ULB – Rev. & exp. | BBMP well-positioned on total receipts & cost control; enhancing per capita income key to enhance fiscal strength

Revenue and expenditure structure

Own income generation

Lower establishment exp.

Weak ◠ Strong

Rating factors	Key Performance Indicators	KPI value
a Revenue size	Total revenue receipts (In Rs. crore)	<50 ◠ >1000
b Own income generation (per capita)	Total own revenue receipts (excluding grants and transfers from state and central government)/population	<200 ◠ >5000
c Collection efficiency – property tax	Current collection/current demand	<45% ◠ 100-91%
d Collection efficiency – water supply and sewerage	Current collection/current demand	<45% ◠ 100-91%
e Establishment expenditure	Establishment expenditure/total revenue	>80% ◠ <40%

- Revenue Strength: BBMP has receipts of INR 1,000+ Cr p.a. , incl. INR 4,000+ Cr from own sources; per capita own income ~INR 3,000-3,500) can improve with stronger collection systems
- Collection Efficiency: 80-90% property tax collected from registered property wonders with 70-80% coverage of tax net; further improvement possible via BESCOM integration and ongoing GIS mapping
- Establishment Spend: At ~30% of revenue, BBMP's establishment cost is well within efficient ULB benchmarks (<40%)

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Operational Efficiency | BBMP positioned in mid-to-high performance band with reforms in GIS mapping, ISWM, & utility expansion to strengthen service delivery

Operational efficiency of the ULB

Coverage of key municipal services

Existing service levels

Weak ◠ Strong

Rating factors	Key Performance Indicators	KPI value
a Property tax coverage	Coverage of properties under tax net no. of properties under tax net/total estimated no. of properties	<30% ◠ 100-91%
b Water supply coverage	Percentage of households covered by direct tap connection of water supply	<30% ◠ 100-91%
c Water supply availability	Water supply in litre per capita per day (gross)	<70 ◠ >135
d Water supply metering	Percentage of metered water service connections	<30% ◠ 100-91%
e Sewerage coverage	Percentage of households covered by direct connection of sewerage	<30% ◠ 100-91%
f Treatment capacity of sewerage	Percentage of sewage being treated against total generation	<30% ◠ 100-91%
g Collection efficiency of municipal solid waste (MSW)	MSW collected/generated	<30% ◠ 100-96%
h Treatment capacity for MSW	MSW treated/collected	<30% ◠ 100-91%
i Surfaced road network	Length of surfaced roads/total road length	<30% ◠ 100-96%
j Streetlights coverage	Number of streetlights (poles)/total road length (km)	<15 ◠ >30
k Drainage coverage	Percentage of city covered with storm water drains	<30% ◠ 100-91%

- Property Tax Coverage: 70-80% coverage; GIS-based mapping underway to identify untaxed properties and boost compliance
- Water, Sewerage & Drainage: Estimated ~70%+ coverage across core utilities; performance strong relative to peer ULBs
- Waste Collection & Treatment: BBMP moving from decentralized setup to integrated SWM model via city-wide tender rollout
- Road Network: 5+ major corridor and infra upgrades planned to enhance connectivity and surfaced road share.

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Rating agencies focus on 7 key drivers while rating the Urban Local bodies (Issuer Ratings)

Key rating drivers
1
2
3
4
5
6
7

In order of importance and controllability

High

1. Operational Efficiency of the ULB
2. Financial Strength of the ULB
3. Project Pipeline and Execution Track Record
4. Quality of Reporting, Monitoring and Reform Efforts
5. Inter-Governmental Fiscal Relationships
6. Economic Strength
7. State Government's Credit Quality

Low

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Investment-grade municipal corporations are converting credit strength into INR 200 – 400 Cr capital access for urban transformation

AMRUT (Atal Mission for Rejuvenation and Urban Transformation)

To boost infrastructure financing, AMRUT 2.0 (April 2025) incentivizes ULBs to issue municipal, green, or pooled bonds on a first-come, first-served basis (up to 15 ULBs):

- First-time issuers: Eligible for INR 13 crore per INR 100 crore raised, capped at INR 26 crore
- Repeat issuers (under AMRUT/AMRUT 2.0): Must issue SEBI-defined green bonds; eligible for INR 10 crore per INR 100 crore, capped at INR 20 crore
- Mangaluru and Mysuru City Corporations were sanctioned INR 27 Cr and 7 Cr respectively under AMRUT for lake and park revitalization projects.

Municipal Corporations	Issuer Credit Rating	Fundraising activities based on ratings
Indore Municipal Corporation	IND A+/Stable	Raised INR 244 crore green municipal bonds in 2023 to fund 60 MW solar plant in Khargone
Pune Municipal Corporation	IND AA+/Stable	Raised INR 200 Cr to implement 24x7 water supply under Smart City in 2017
Navi Mumbai Municipal Corporation	IND AA+/Stable	Approved INR 400 Cr green bond for sewage & water infra (AMRUT 2.0)
Vadodara Municipal Corporation	IND AA+/Stable	Raised INR 100 Cr via Asia's 1st certified green Muni bond for wastewater management in 2024
Greater Hyderabad Municipal Corporation	IND AA/Stable	Issued INR 495 Cr bonds for core infra under AMRUT (2018-19)
Ahmedabad Municipal Corporation	IND AA/Stable	Raised INR 200 Cr green bonds for AMRUT 2.0-linked urban infra in 2024
Greater Warangal Municipal Corporation	CRISIL A-/Stable	Not issued yet

- B-Smile (90% GoK owned) is expected to have a credit rating on par with the Government of Karnataka, potentially enhanced through revenue escrows (e.g., P-FAR)
- GBA and the three municipal corporations will be rated separately, depending on which entity is borrowing

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BBMP's five-year rating decline signals the need to rebuild market confidence through financial and institutional reforms

> Credit ratings indicate the degree of risk regarding timely payment of the issuer's financial obligations
>
> *- CRISIL Ratings*

> A credit rating is an assessment of the degree of risk regarding timely payment of the issuer's financial obligations
>
> *- CARE Ratings*

Importance of Credit Rating

- Improves Borrowing Capacity: Higher ratings enable access to low-cost debt via bonds & loans by boosting market confidence
- Signals Financial Discipline: Reflects strong governance and fiscal management, attracting investor and government trust
- Unlocks Scheme Access: Determines eligibility for central/state funding like AMRUT, NIIF, and PPP participation

Rating[1]	Meaning	Risk Appetite
AAA	Exceptional credit strength; lowest expectation of default	Extremely Low Risk
AA+/AA/AA-	Very strong fundamentals with minimal credit risk	Very Low Risk
A+/ A/A-	Adequate credit profile; stable with room for improvement	Low to Moderate Risk
BBB+/BBB / BBB-	Marginally adequate profile; vulnerable to shifts	Moderate Risk
BB+/BB/ BB-	Speculative grade; exposed to adverse changes	High Risk
B/C	Weak profile; significant credit concerns	Very High Risk
D	Default or near-default status	Default no Risk Appetite

History of BBMP

Financial Year	Credit Rating	Status
FY2020	A (Stable)	Active
FY2021	A+ (Stable)	Active
FY2022	BBB+ (Stable)	Issuer Not Cooperating
FY2023	BB+ (Stable)	Issuer Not Cooperating
FY2024	B+ (Stable)	Issuer Not Cooperating

BBMP's long-term rating declined from A to B+ over five years due to sustained non-cooperation and lack of timely disclosures to ICRA

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[1] Source: ICRA Rating scale

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Charting the path forward – from vision to impact

Proposal submission	• Detailed proposal submission outlining scope of work, cost estimates, timelines, and resource plans
BBMP review and approval	• BBMP to evaluate the proposal and provide provisional acceptance • Upon approval, a formal MoU to be signed, outlining the roles, responsibilities, and terms of engagement
Onboarding implementation partner	• Implementation partner to be onboarded by either BBMP (its existing partners) or by the corporate, depending on mutual agreement and project needs[1] • Tripartite MoU to be signed in case of corporate onboarded implementation partner
Fund deployment & project implementation	• CSR funds to be transferred directly to the implementation agency, as per defined timelines and milestones • Close, continuous monitoring by BBMP appointed nodal officers to ensure compliance
Handover and impact recognition	• Inspection and certification of the completed work by BBMP • BBMP to publish annual reports and organize CSR Conclave to showcase partner contributions and project impact stories

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[1] For any work undertaken towards lakes, the CSR partner can only onboard BBMP-approved suppliers and vendors

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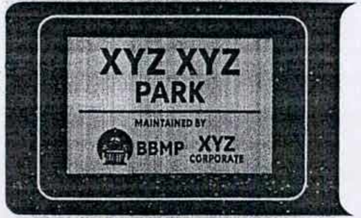
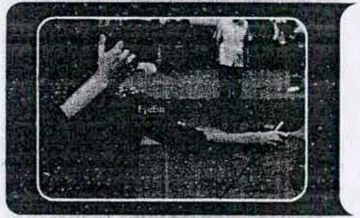
Shape greener public spaces while strengthening your community footprint

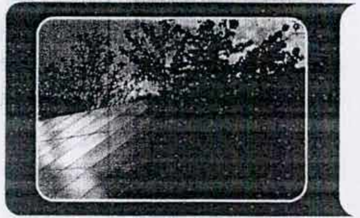
Branded park infrastructure
Branding on funded assets like benches, open gyms, play equipment - seen daily by **hundreds of users**



Co-branding with BBMP
Visible co-branding with BBMP on park signage and entry boards reinforces civic collaboration and offers daily exposure to thousands of citizens



Civic recognition
Gain external visibility through **BBMP acknowledgments**, **local media features**, and inclusion in BBMP-published reports



Strengthened sustainability & ESG credibility
Improve ESG profile by showcasing action on **key SDG goals like Sustainable Cities (SDG 11), Climate Action (SDG 13), and Urban Biodiversity (SDG 15)**

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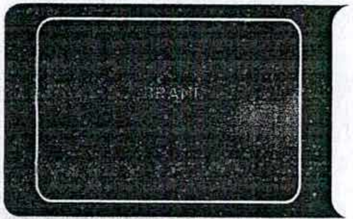
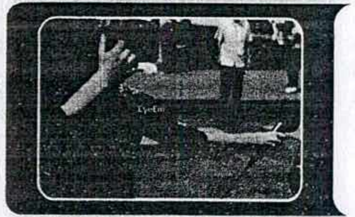
Create lasting impact while enhancing your connect with local community



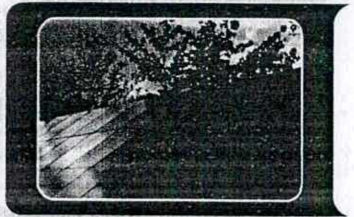
Enhanced brand visibility

Branding on installed assets like floating islands, robots, lighting poles etc., along with banners/boards



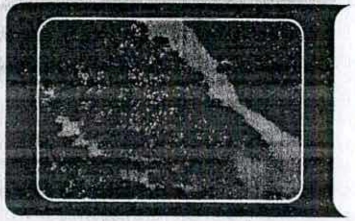
Public recognition

Gain recognition through **media coverage and official acknowledgments** by BBMP reinforcing role as a **key sustainability partner** on international and national forums



Strengthened ESG profile

Improve ESG profile by showcasing action on **key SDG goals like Clean Water (SDG 6), Sustainable Cities (SDG 11), and Climate Action (SDG 13)**



Potential for carbon credit integration

Contribution like floating wetlands generate **verified carbon credits** and reinforce brand's **commitment to net-zero goals**

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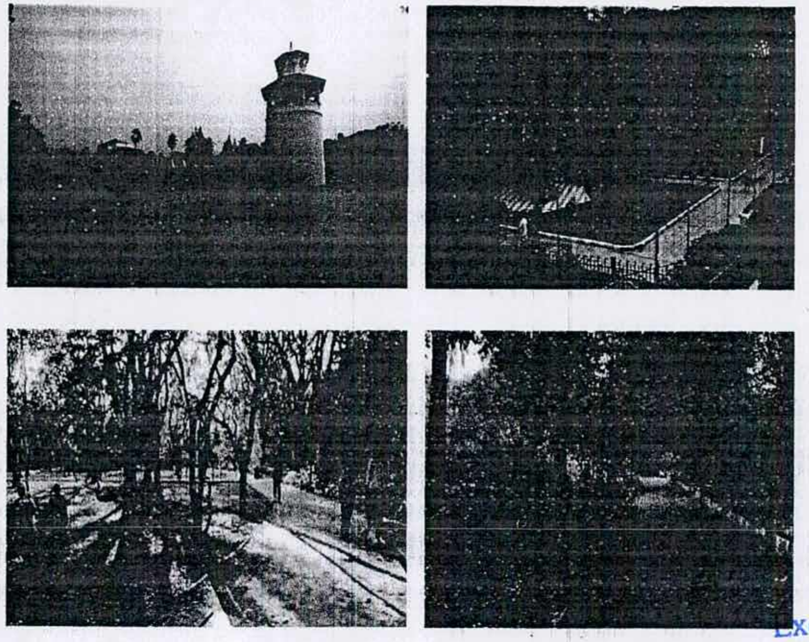
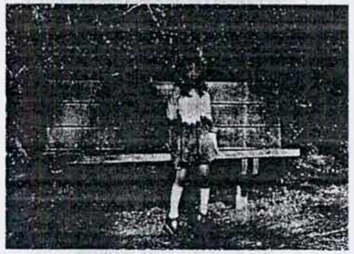
Support the restoration of Bengaluru's parks to build greener neighborhoods

Be a part of an effort to rejuvenate Bengaluru's parks like Freedom park, Guttahalli park, and many more green spaces across the city

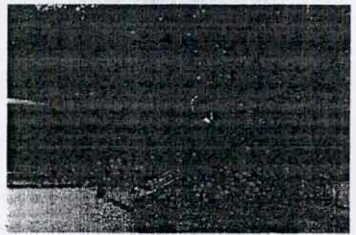


Potential areas of contribution

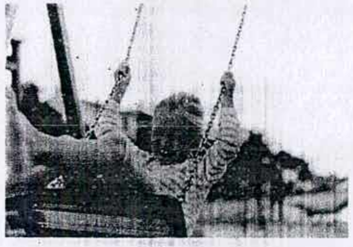
Installation of amenities
Benches, gazebos, dustbins, park signage



Development of open gym and fitness infrastructure
Exercise equipment, yoga mats, etc.



Development of children's play areas
Play zones with swings, slides, climbing structures



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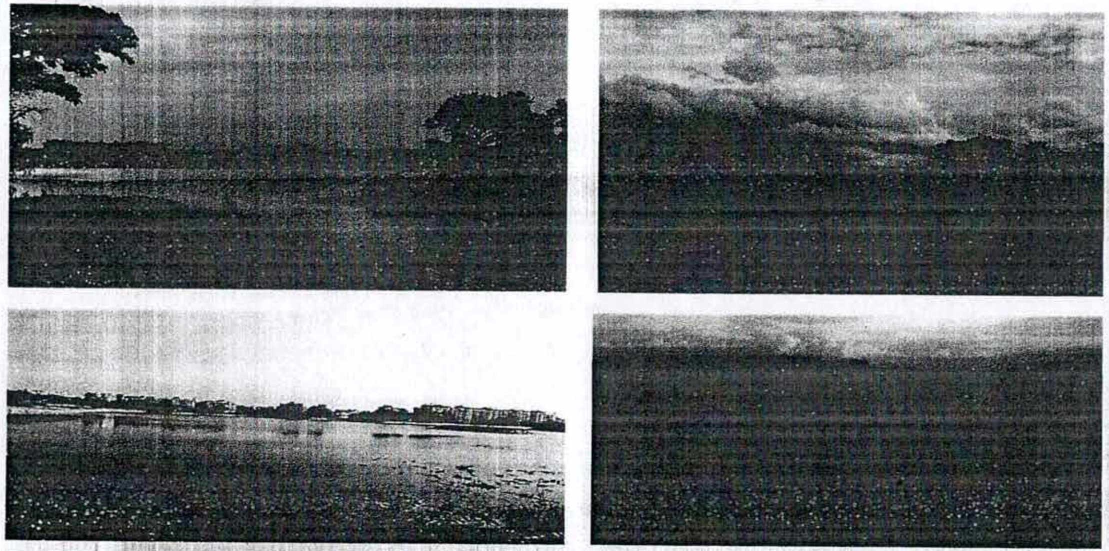
Revive Bengaluru's blue heart- contribute to the restoration of lakes

Join the efforts to restore Bengaluru's iconic lakes – Madiwala, Hebbal, Kaggadasapura, Yelakanka, and many more…



Lakes	Area (in acres)	Required investment (INR Cr)
Madiwala lake	9	21
Hebbal lake	192	17
Kaggadasapura lake	47	6
Yelahanka lake	291	TBD

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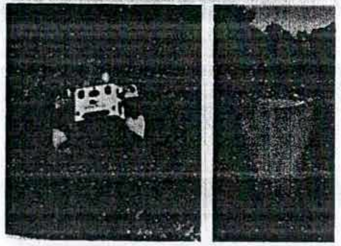
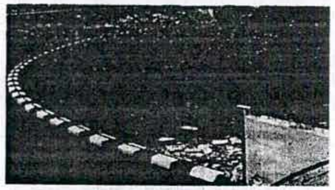
Potential areas of contribution

Installation of robotic lake cleaners and aerators



Installation of trash barriers



Development of floating wetlands

Installation of benches, play equipment

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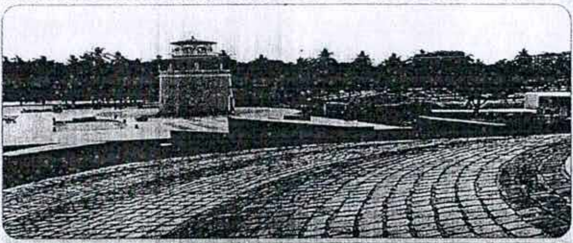
Pitch deck

4.2

Contribute to Bengaluru’s sustainable and inclusive urban future

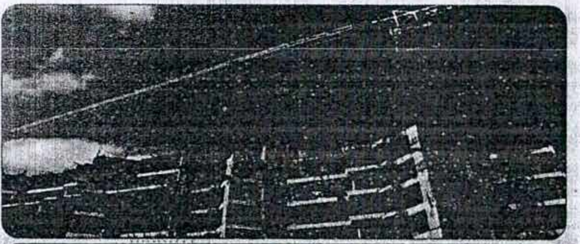


Support [illegible] fund the
[illegible]

Redevelop one or more of **Bengaluru’s 100+ parks and lakes** across the city

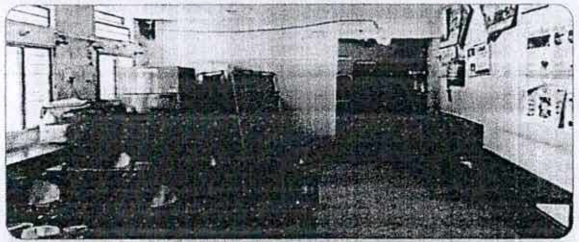
Fund operation and maintenance via adoption of Indira Canteens

Potential to impact **3L+ individuals** through provision of subsidized meals at **120+ centers**



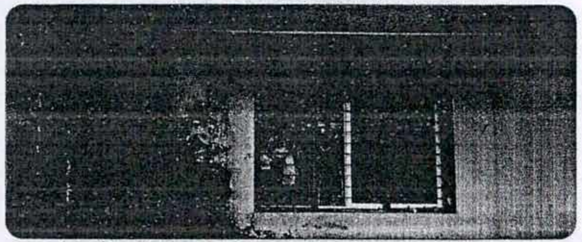
Provide housing, basic amenities (sanitation facilities, etc.) and items for backward communities

Potential to impact **lakhs of underprivileged** families



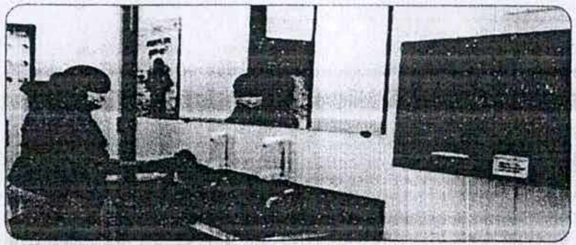
Adopt health [illegible] to fund redevelopment and operating expenses

Fund **operating expenses and renovations**, procurement of **medical equipment**, **and ambulances**



Adopt schools to fund redevelopment mid-day meals

Fund the **education of underprivileged students, provision of mid-day meals at 140+ BBMP schools**



Facilitate improvement of sanitation and solid waste management

Fund the **construction and maintenance of modern public sanitation units** and contribute **mechanized sweeping machines**

⁚⁚⁚⁚ Focus of today’s discussion

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Agenda for today

- Potential initiatives for CSR contribution
- Potential opportunities for CSR in Lakes
- Potential opportunities for CSR in Parks
- Way forward and key next steps

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Pitch deck for outreach

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Key recommendations for proposed CSR Cell

1. Broaden the list of projects for CSR utilization to cover the entire range of eligible activities by BBMP
2. Create a dedicated website to act as one stop platform with details of projects, process for onboarding etc.
3. Create a strong monitoring mechanism by assigning responsibility to nodal officers and appointing 3rd party monitoring
4. Create a governance model for cross-department collaboration for sourcing and monitoring of projects
5. Create a roadmap for expanding the team to add 2-3 more resources who can each focus on specific domains such as sanitation, health, etc.

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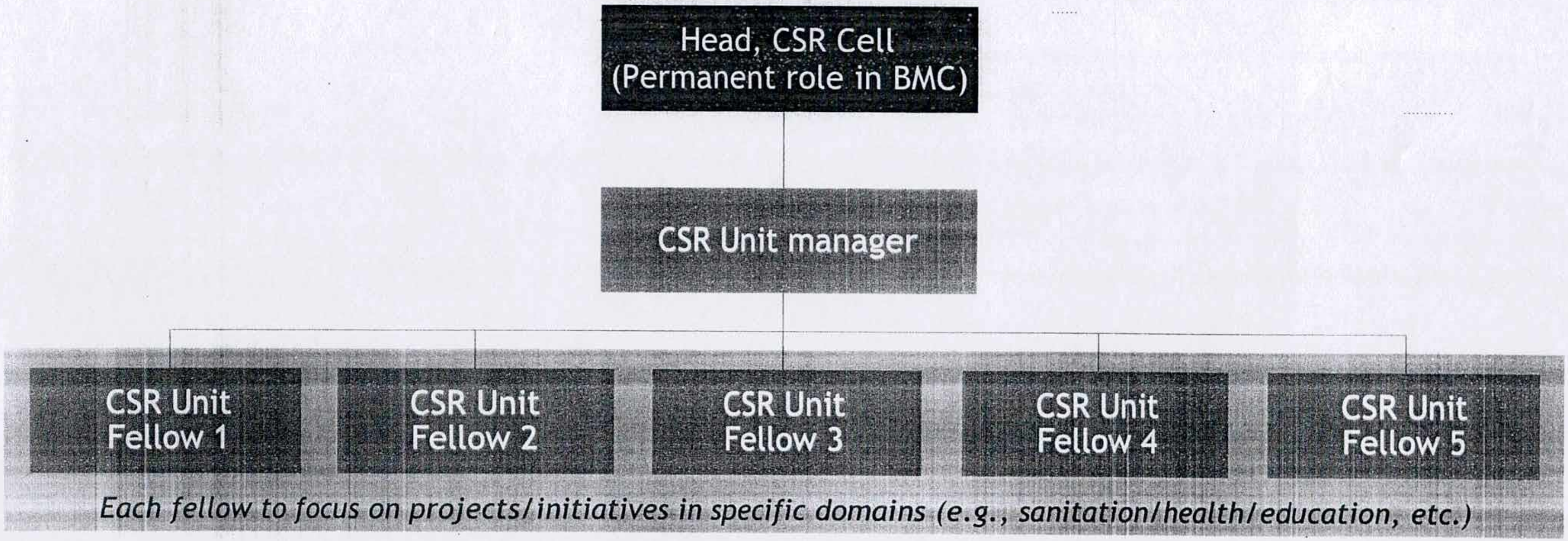
Case study | Organization structure of BMC's CSR Cell



Head, CSR Cell
(Permanent role in BMC)

CSR Unit manager

CSR Unit Fellow 1

CSR Unit Fellow 2

CSR Unit Fellow 3

CSR Unit Fellow 4

CSR Unit Fellow 5

Each fellow to focus on projects/initiatives in specific domains (e.g., sanitation/health/education, etc.)

CSR Unit manages the end-to-end process of project identification from across departments, structured outreach to corporates and monitoring of project implementation

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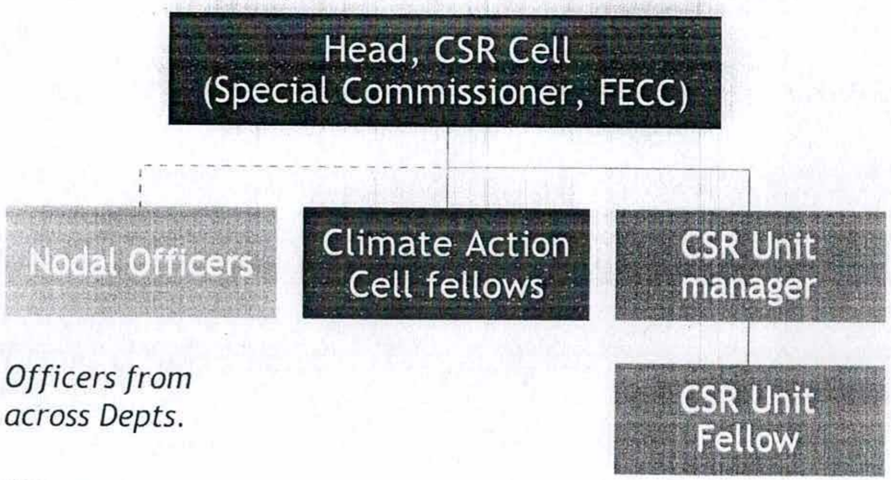
Proposed construct of the CSR Cell and key responsibilities

CSR cell to be set up with 2 dedicated resources


Head, CSR Cell
(Special Commissioner, FECC)
Nodal Officers
Climate Action Cell fellows
CSR Unit manager
CSR Unit Fellow
Officers from across Depts.

▨ New roles to be hired

- Additional domain-focused (sanitation, education, health, etc.) CSR Unit fellows to be hired post completion of 1st year

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Critical to implement a strong monitoring mechanism to ensure correct utilization of CSR funds

Nodal officers of respective departments to monitor and report implementation updates to CSR cell periodically 1

CSR Cell to prepare periodic reports of implementation status across all projects for circulation to corporates and success stories on website 2

For large projects, corporates to be mandated to allocate a portion of the budget for 3rd party monitoring and reporting 3

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Mechanism to channel CSR funds for identified projects

3 key stakeholders to manage CSR funds

Corporate

Provides funding

Implementation partner

Uses the funding to complete the project

BBMP

Monitors and certifies the implementation

Ⓐ Corporates to be **onboarded via an MoU/agreement** outlining project scope and funding commitment

Ⓑ CSR **funds to be transferred directly to the implementing agency** (typically an NGO)

Ⓒ **3 potential scenarios possible** for identifying implementation partner:

① BBMP has an existing partner: Corporate transfers funds directly to the existing partner (e.g. operator of Indira Canteens or partner identified through accelerator)

② Corporate has an existing partner: A tripartite MoU is signed between BBMP, the corporate, and the implementation partner

③ No existing partner: BBMP can run the RFP process to choose the implementation partner and then do a tripartite agreement

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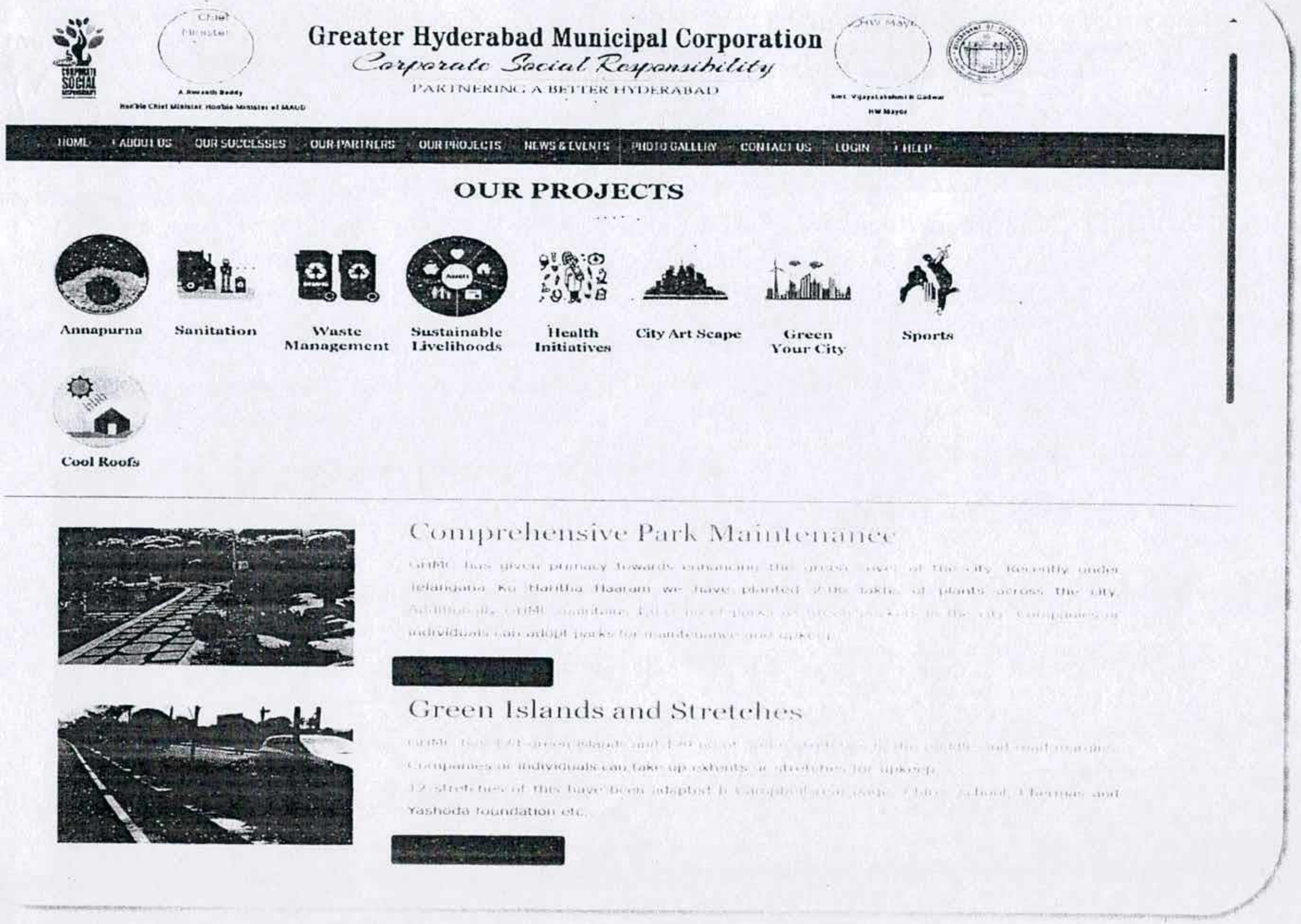
GHMC provides a single platform for sharing available projects and outlines the process of funding for corporates


Chief Minister
A Revanth Reddy
Hon'ble Chief Minister, Hon'ble Minister of MAUD
HW Mayor
Smt. Vijayalakshmi R Gadwal
HW Mayor
HOME
ABOUT US
OUR SUCCESSES
OUR PARTNERS
OUR PROJECTS
NEWS & EVENTS
PHOTO GALLERY
CONTACT US
LOGIN
HELP
Annapurna
Sanitation
Waste Management
Sustainable Livelihoods
Health Initiatives
City Art Scape
Green Your City
Sports
Cool Roofs

Greater Hyderabad Municipal Corporation

Corporate Social Responsibility

PARTNERING A BETTER HYDERABAD

OUR PROJECTS

Comprehensive Park Maintenance

Green Islands and Stretches

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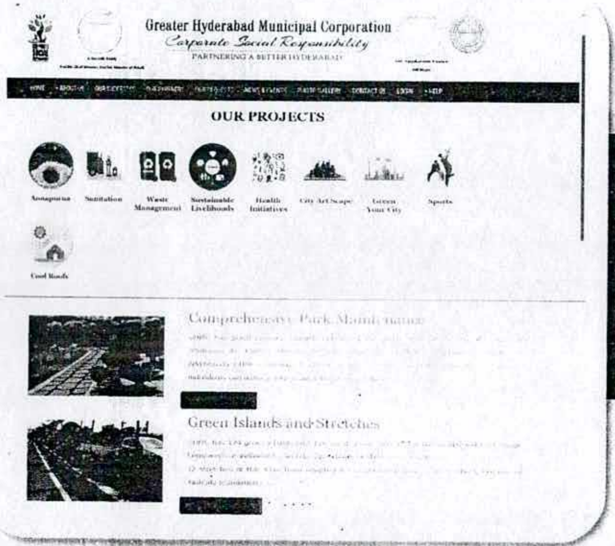
Case Study | GHMC provides a single platform for sharing available projects and outlines the process of funding for corporates

Deck of projects with clear details


Greater Hyderabad Municipal Corporation
Corporate Social Responsibility
PARTNERING A BETTER HYDERABAD

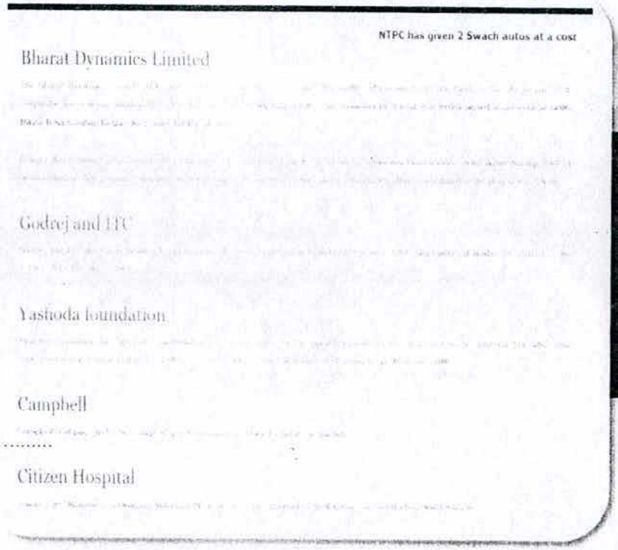
OUR PROJECTS

Annapurna
Sanitation
Waste Management
Sustainable Livelihoods
Health Initiatives
City Art Scape
Green Your City
Sports
Cool Roads

Comprehensive Park Maintenance

Green Islands and Stretches

Success stories


NTPC has given 2 Swach autos at a cost

Bharat Dynamics Limited

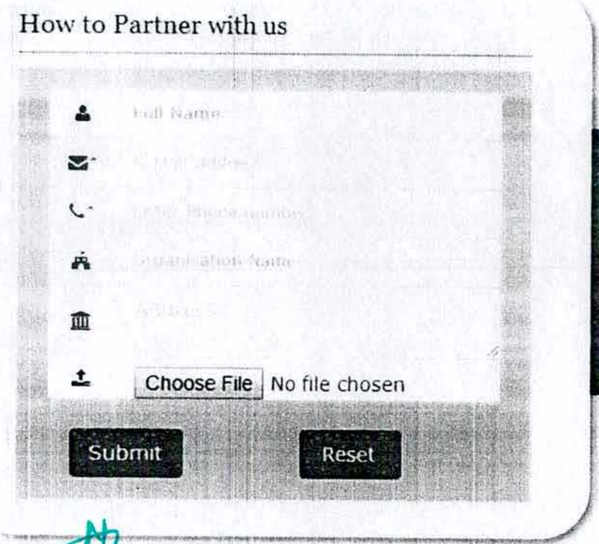
Godrej and ITC

Yashoda foundation

Campbell

Citizen Hospital

Platform for expressing interest in participation


How to Partner with us

Full Name
E-mail address
Mobile Phone number
Organisation Name
Address
Choose File
No file chosen
Submit
Reset

Key learnings for BBMP

Critical to create a one-stop-solution website with:
- Detailed deck of projects
- Showcase of success stories and impact created
- Manual of processes for onboarding and implementing
- Single point of contact for queries

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Outreach being conducted across Bengaluru's major firms

10+ discussions conducted - interest received from 5 firms

amazon	• Lake rejuvenation, mid-day meals in schools, and redevelopment of Indira canteens
TOYOTA	• Lake rejuvenation in Kengeri/ Rajarajeshwari Nagar
	• Lake rejuvenation and funding O&M for parks
Infosys	• HPV vaccination for 1000 girl students, procurement of notebooks and smart class content for BBMP schools
BOSCH	• Model road development with enhanced safety and infrastructure (efficient drains, pedestrian walks, ramps, etc.)

Outreach being conducted for 50+ additional firms

Pitch deck created to attract CSR funds for lake rejuvenation and adoption of BBMP parks

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Preliminary list of BBMP projects for CSR funding (2/2)

CSR category (per Schedule 7)	Project
Promoting education	• Provide education infrastructure (digital infra, construction of new schools, etc.)
	• Adopt schools to fund operating expenses
	• Provide education material - note books, bags, etc
Promoting health care	• Adopt hospitals/ health care centers to fund operating expenses
	• Support hospital re-development/ construction (inc. repairs and new centers)
	• Conduct disease prevention drives/ medical camps
Sanitation/Solid waste management	• Provide SWM equipment such as mechanical sweepers, etc.
	• Public toilet construction (SHE toilets, etc.)
	• Conduct clean-up of rivers/ water bodies

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Preliminary list of BBMP projects for CSR funding (1/2)

CSR category (per Schedule 7)	Project
Eradication of hunger, poverty, malnutrition	• Fund the operation and maintenance via adoption of 100 Indira Canteens for 1 year
	• Fund mid-day meal schemes in 100+ BBMP schools
Measures for reducing inequality	• Provide housing and infrastructure (street lighting, public toilets, etc.) for backward communities (SC/ST, PKs, OBC)
	• Procure items for backward communities (ration, study material, etc.)
	• Procure e-vending vehicles for street vendors
	• Provide financial assistance for backward (SC/ST, PKs, OBC)
	• Provide vehicles for disabled persons
	• Sponsor education for students of backward communities
Conservation of natural resources	• Adopt parks and playgrounds to fund the redevelopment/ maintenance e.g. Freedom Park

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Proposed approach for mobilizing CSR funds

MoU signing with corporate

1 **Curation of projects**

Identification of opportunities from across departments to create projects - support required from respective departments

2 **Outreach to corporates**

Structured outreach to corporates to pitch projects including:

- **Creation of decks/ proposals** and conduct pitch meetings
- Maintenance of **website to act as one-stop platform** for corporates

3 **Onboarding of corporates**

Manage the **onboarding of the corporates and implementation partners** with the necessary approvals and paperwork

4 **Implementation monitoring**

Monitor the utilization of the funds for the intended projects and publish periodic reports across initiatives

5 **Key Enabler**

CSR Cell: Create a **dedicated team to manage the end-to-end process** from curation of projects, outreach to onboarding and implementation

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Scope to utilize CSR for multiple expenditure items at BBMP (2/2)

Activity	CSR category (per Schedule 7)	Budget 25E (INR Cr)	Examples
Financial assistance for backward (SC/ST, PKs, OBC)	Measures for reducing inequality	47	• **Adani Foundation** has given subsidized loans and financial assistance for backward classes across states
Opex for schools	Promoting education	43	• **Infosys Foundation** contributed towards school/corpus funds, school furniture, equipment for various govt. schools
SWM Equipment	Sanitation	40	• **Adar Poonawala's Foundation** donated litter bins, and funded mechanical sweeping for **Pune Municipal Corporation**
Hospital re-development (inc. maintenance and repairs)	Promoting health care	32	• **Texas Instruments, Embassy Group, Goldman Sachs** have contributed for re-development/addition of beds to govt. hospitals
Education material - note books, bags, etc	Promoting education	28	• **Infosys Foundation** and many others contribute for various govt. schools
Disease prevention drives	Promoting health care	22	• **ICICI and ONGC Foundation** implemented mosquito trap solution in collaboration with **Pune Municipal Corporation** to prevent malaria
Vehicles for disabled persons	Measures for reducing inequality	14	• **Bajaj Finserv and Hyundai** have provided automated wheelchairs in Mumbai and Pune
Education of backward communities	Measures for reducing inequality	13	• **NLC India** has supported the tuition fees of SC/ST/OBC students
Equipment, medicines, materials for hospitals	Promoting health care	11	• **Infosys Foundation** and many others contribute regularly
Public toilet construction	Sanitation	10	• **HUL, JSW Foundation** established Suvidha Centers in collaboration with **BMC** (showers, toilet, laundry, etc.)
Mid-day meal expenses	Eradication of hunger, poverty, malnutrition	8	• **Amway** contributes to Akshayapaatra scheme in Hyderabad

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Scope to utilize CSR for multiple expenditure items at BBMP (1/2)

Activity	CSR category (per Schedule 7)	Budget 25E (INR Cr)	Examples
Housing for backward communities (SC/ST, PKs, OBC)	Measures for reducing inequality	413	• **Mahindra Rural Housing Finance Ltd.** has built sanitation units for underprivileged families in collaboration with an NGO and **local panchayat in Tamil Nadu**
Basic infrastructure for backward communities (SC/ST, PKs)	Measures for reducing inequality	309	
Social security scheme for backward communities	Measures for reducing inequality	174	• **Tata Motors** contributed ~25Cr for SC/ST community across health, education and financial assistance
Maintenance and redevelopment of parks and playgrounds	Conservation of natural resources	120	• Policy for park adoption already released by BBMP
Emergency health care services	Promoting health care	80	• **Manappuram Finance and Kotak Mahindra Bank** have provided ambulances to various state govts and **urban local bodies**
Procurement of items for backward communities	Measures for reducing inequality	75	• Various foundations and corporates provide assistance to SC/ST communities
Indira Canteen Food Supply Programme	Eradication of hunger, poverty, malnutrition	70	• **GHMC** and **Greater Chennai Corporation** seek CSR for Annapurna scheme and Amma Canteens respectively
Education infrastructure	Promoting education	50	• **Bajaj Auto** has contributed CSR for improving and repairs to govt. school buildings and teacher capacity enhancements
E-vending vehicles	Measures for reducing inequality	50	

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BBMP can potentially use CSR funds to fund current expenditure or to launch new initiatives/ projects beyond the planned budget

Eligible activities under CSR as per Schedule 7 of Companies Act 2013

1	Conservation of natural resources	9	Promotion of healthcare
2	Ensuring environmental sustainability	10	Promotion and development of traditional arts
3	Eradication of hunger	11	Protection of national heritage
4	Making safe driking water available	12	Rural development projects
5	Measures for reducing inequality	13	Sanitation
6	Measures of benefit of armed forces/war widows	14	Setting up old age homes
7	Promotion of education	15	Setting up public libraries
8	Promotion of gender equality	16	Promotion of rural sports

2 areas for utilization of CSR funds by BBMP

① **To fund part of current expenses (part of budget)** via CSR

② To fund **projects beyond budget**

- **A** **Projects similar to BBMP's regular activities**- e.g. set up of new hospitals/ revamp of an existing school, etc.
- **B** **Novel solutions and technologies** outside of BBMP's regular scope

Relevant to BBMP

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Impact: $500 mn Blended Finance Facility commitments are in place from SIDBI, NABARD, PFC and World Bank; target to reach $3 Bn+

Robust Design & Structure

First of its kind blended climate financing facility, that looks at adaptation, resilience and mitigation all in one integrated manner

Targeted Engagement

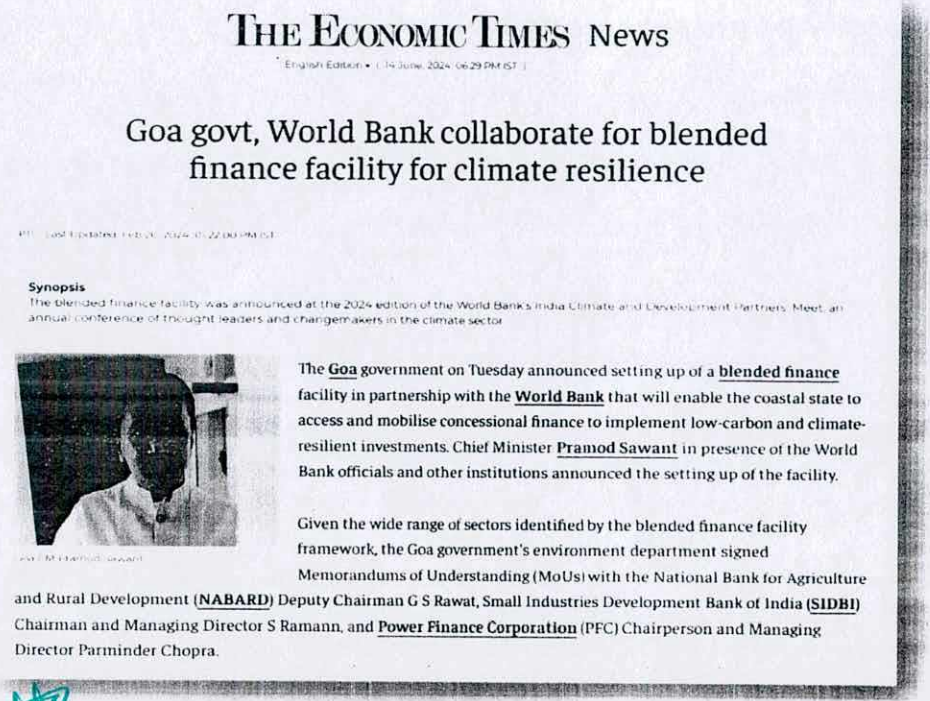
A top down as well as bottom-up consultative, consensus driven approach to align with state priorities

Pipeline Build

Most facilities fail, due to lack of projects or bankable opportunities. ~55% of the pipeline already in place during the launch of the facility in this case, to strengthen confidence and credibility

Proactive Resource Mobilization

- Mainstream anchor partners onboarded at the design state itself - including SIDBI, NABARD and PFC
- Commitments in place for $500 mn; target to reach $3 Bn



THE ECONOMIC TIMES News

English Edition • | 14 June, 2024, 06:29 PM IST |

Goa govt, World Bank collaborate for blended finance facility for climate resilience

PTI Last Updated: Feb 20, 2024, 10:22:00 PM IST

Synopsis

The blended finance facility was announced at the 2024 edition of the World Bank's India Climate and Development Partners' Meet, an annual conference of thought leaders and changemakers in the climate sector

The **Goa** government on Tuesday announced setting up of a **blended finance** facility in partnership with the **World Bank** that will enable the coastal state to access and mobilise concessional finance to implement low-carbon and climate-resilient investments. Chief Minister **Pramod Sawant** in presence of the World Bank officials and other institutions announced the setting up of the facility.

Given the wide range of sectors identified by the blended finance facility framework, the Goa government's environment department signed Memorandums of Understanding (MoUs) with the National Bank for Agriculture and Rural Development (**NABARD**) Deputy Chairman G S Rawat, Small Industries Development Bank of India (**SIDBI**) Chairman and Managing Director S Ramann, and **Power Finance Corporation** (PFC) Chairperson and Managing Director Parminder Chopra.

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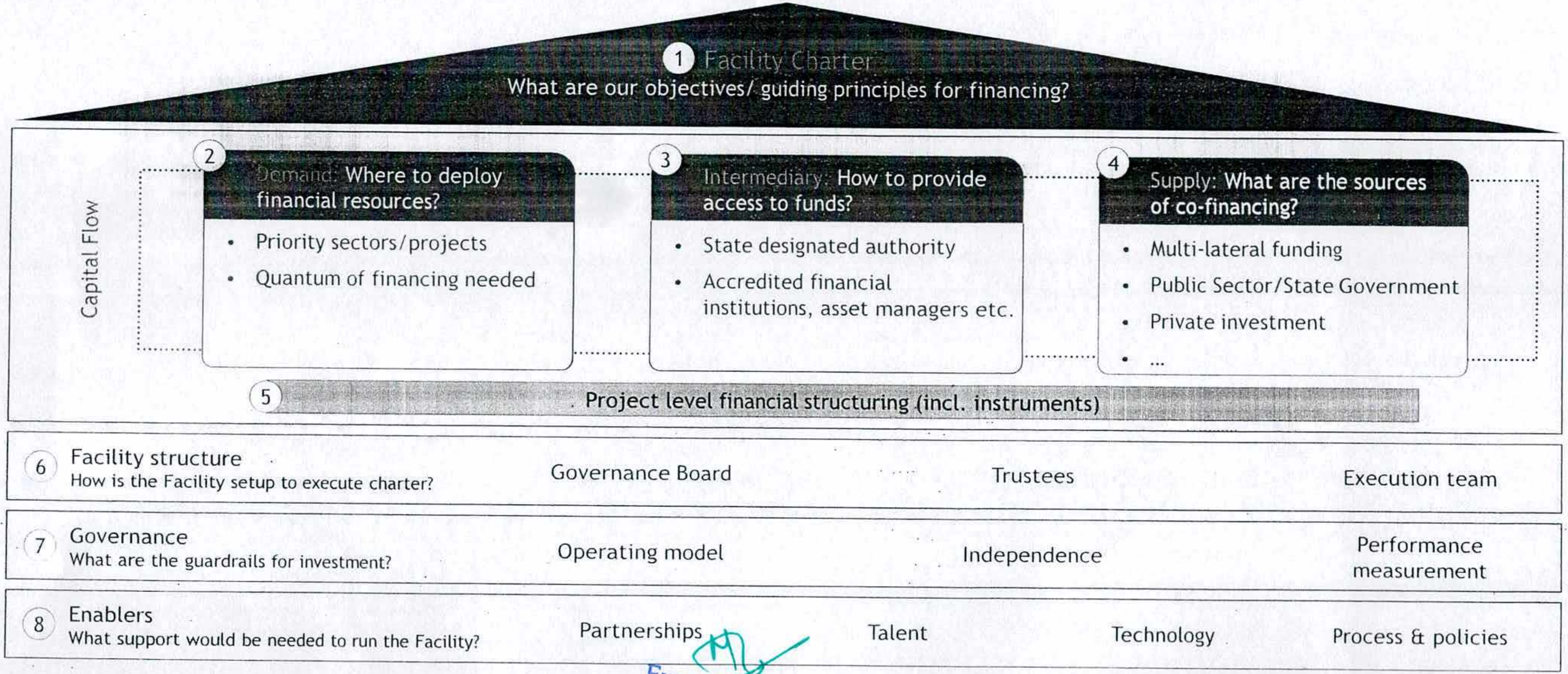
Goa's is setting up a Blended Finance Facility, keeping in mind its broader sustainable development, energy, climate and resilience goals



① **Facility Charter**
What are our objectives/ guiding principles for financing?

Capital Flow

② **Demand: Where to deploy financial resources?**
- Priority sectors/projects
- Quantum of financing needed

③ **Intermediary: How to provide access to funds?**
- State designated authority
- Accredited financial institutions, asset managers etc.

④ **Supply: What are the sources of co-financing?**
- Multi-lateral funding
- Public Sector/State Government
- Private investment
- ...

⑤ **Project level financial structuring (incl. instruments)**

⑥ Facility structure How is the Facility setup to execute charter?	Governance Board		Trustees	Execution team
⑦ Governance What are the guardrails for investment?	Operating model		Independence	Performance measurement
⑧ Enablers What support would be needed to run the Facility?	Partnerships	Talent	Technology	Process & policies

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ಡಿಯಲ್ಲಿ ನೀಡಲಾದ ಪ್ರತಿ

For internal discussion only

Multitude of options have been reviewed and analysed to structure the Blended Finance Facility

Illustrative

	Ⓐ House in an existing govt. institution	Ⓑ Form a separate govt. company	Ⓒ ☆ Create a dedicated SPV	Ⓓ Outsource to 3rd party Facility Manager
Description	The Facility will be housed in or be a subsidiary of an existing state government institution	A company to be registered by the Govt. of Goa for housing the Facility, full ownership with the govt.	A dedicated SPV to be formed that can allow cross-holding by the govt. as well as the intermediaries	The Facility will be managed by 3rd party asset management professionals or consultants
Example (if any)	Canada Growth Fund, established in 2022 as a subsidiary of the Canada Development Investment Corporation	Australia's Clean Energy Finance Corporation	Tamil Nadu Green Climate Company established by the Govt. of Tamil Nadu for implanting its climate change missions	SAMRIDH healthcare blended finance facility, managed by the development consulting group IPE Global
Feasibility	◔ Would need internal capabilities within the government institution	◑ Could be time consuming	◑ Feasible, given TN has already done it	◔ Subject to finding the right manager
Flexibility	◑	◑	◕	◔
Cost of Financing	◕	◔	◑	◔

☆ Recommended option for Goa

Source: Secondary research, Expert discussions, BCG Analysis

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Multiple blended finance structures are possible, however, setting-up "facilities" most popular in India, owing to higher level of customization offered

Facility	Financial arrangement that provides funding at the project level, for deployment toward a specific recipient or intervention; offers high level of customization at project-level and thus, tangible financial risk mitigation
Fund	A pooled vehicle that gathers money from multiple investors; includes debt and equity funds. Structured as a collective investment scheme and thus, typically doesn't offer project-level customization to investors
Bonds/ notes	Includes corporate issuances and green bonds for specific projects or interventions
Company	Includes investments within a company, where the company maintains a blended capital structure (incl. grants, concessional capital, commercial capital, etc.)
Project	Involves various stakeholders coming together and pooling in capital and resources to achieve a common outcome under a clearly defined project

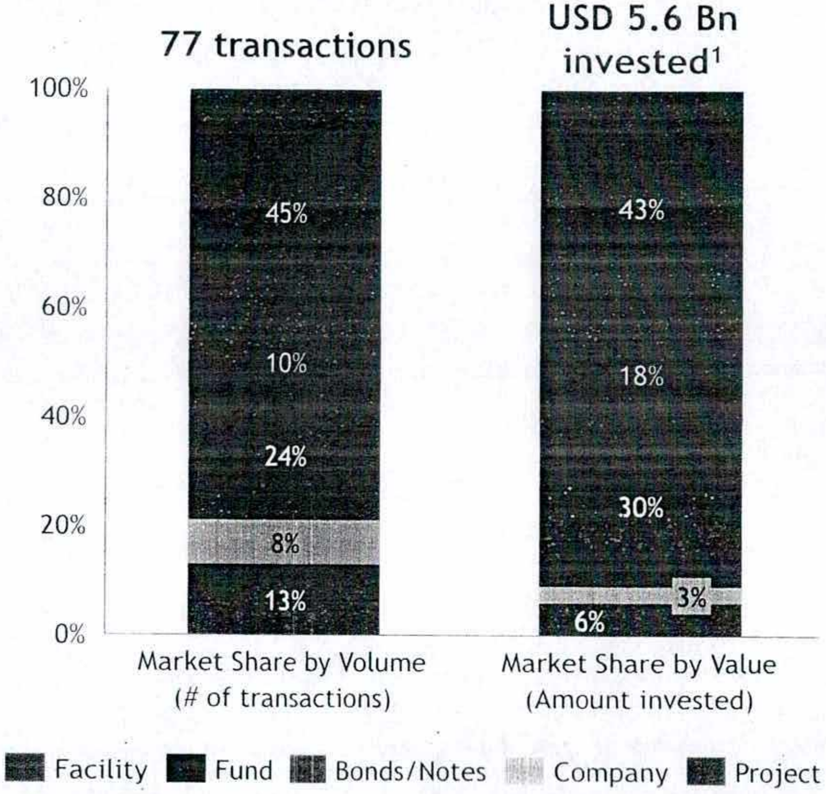

Fig above: A round-up of Blended Finance in India

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1. Total amount during the period 2010-2022

Source: The Blended Finance India Narrative

4.1

Case Example | Proactive outreach by SIDBI to secure $200Mn from GCF to finance mitigation & adaptation projects

Total financing by GCF of ~$200 Mn debt + $16 Mn TA (~1.5% pre-hedging)

Blended facility to be created with GCF capital; 3x capital (~$3Bn) to be raised via NBFCs/FIs as partners with 13 years tenor

- ~60% investment in mitigation investment (e.g., EE, EV, RE)
- ~40% investment in adaptation projects

13 sectors identified for mitigation financing

- Food Processing, Textiles, Brick Kilns, Rubber & Plastics, Pharmaceuticals, Chemicals, Leather, Foundry, Paper & Pulp, Cement, Steel Re-Rolling, Sponge Iron

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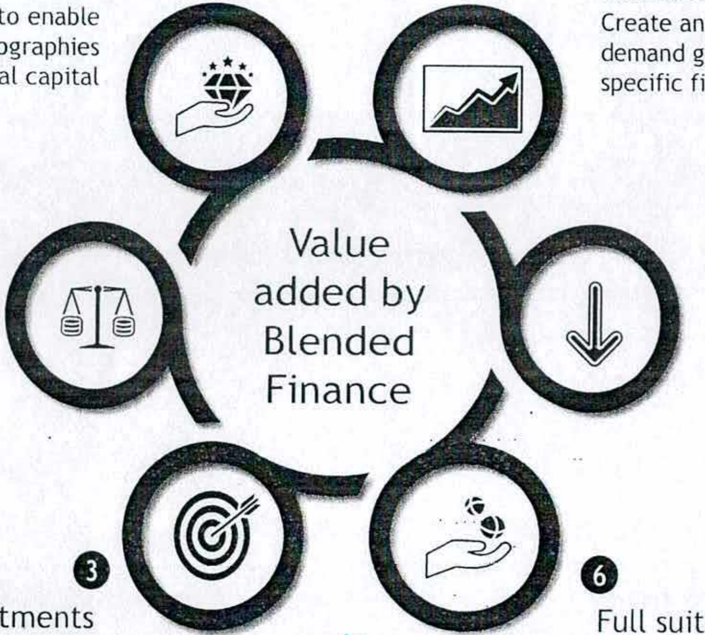
Blended finance can help fill BBMP's financing gap and help in de-risking and reducing uncertainty...



① **Technical Assistance**
Capacity building support to enable underserved segments and geographies unlock commercial capital

② **Reduce cost of capital**
Mitigate risk and reduce cost of capital by leveraging commercial, concessional and philanthropic capital and long-term financing

③ **Focused investments**
Enable scale up of high potential mitigation and adaptation solutions; leverage government programs

④ **Demand generation**
Create an enabling environment for local demand generation by addressing specific financing gaps in the region

⑤ **Uncertainty reduction**
Reduce high initial costs in large projects by providing advisory and preparatory services to facilitate private investment

⑥ **Full suite of solutions**
Ability to combine and finance basic infrastructure and service delivery with climate action and hence, can offer a full suite of solutions

...and crowd-in private capital

Up to

$10

Private capital mobilized per $1 of blended finance investment

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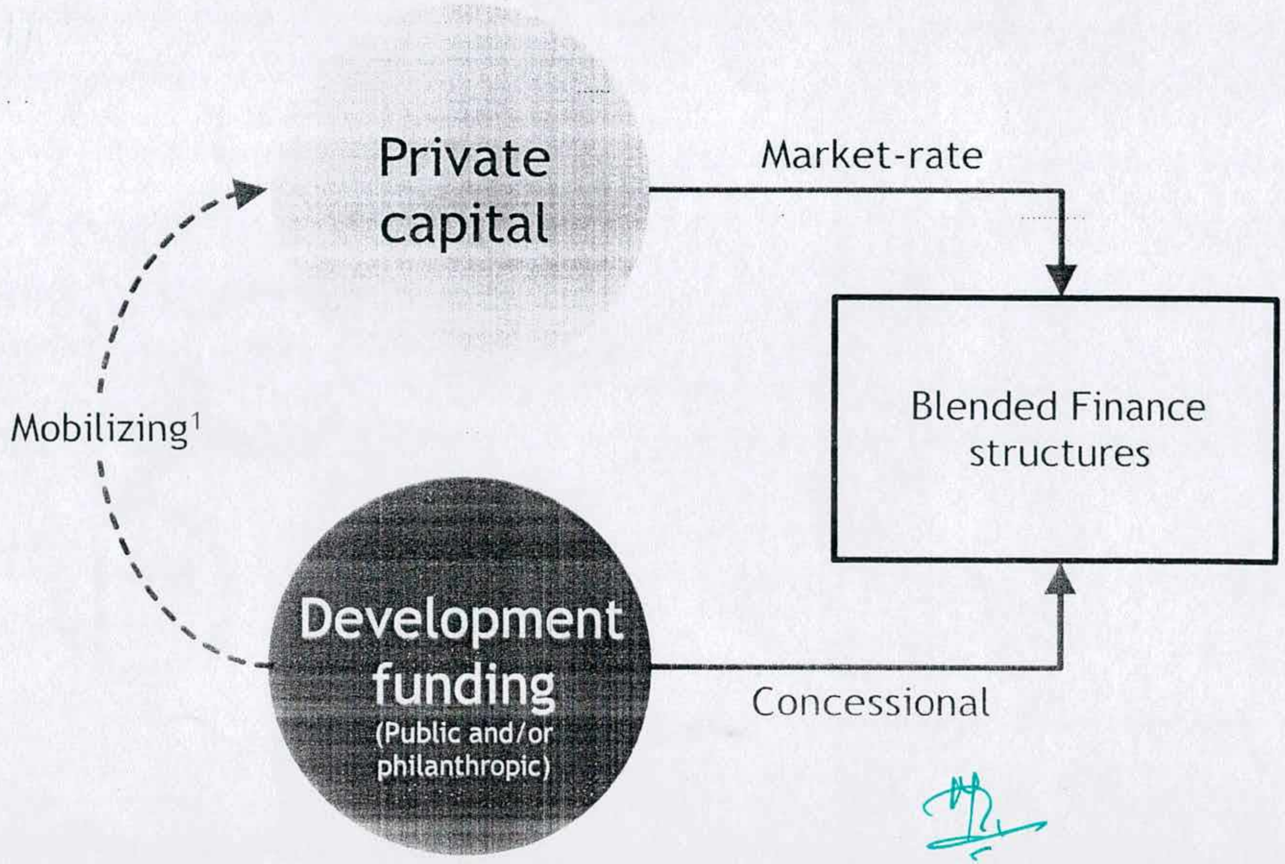
Entities blend finance with different return expectations

Blended finance is the use of catalytic capital from public or philanthropic sources to increase private sector investment in sustainable development



Private capital
Market-rate
Mobilizing[1]
Blended Finance structures
Development funding
(Public and/or philanthropic)
Concessional

[1] Mobilization of private capital can happen in the same period to transfer a real risk or in a later period when development funding demonstrates the viability of [illegible]
Source: Blended Finance Taskforce, Convergence

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Other ULBs have utilized carbon credits for various solid waste management projects setting a precedent for BBMP

Name	Project proponent	Project type	Emission reductions (tCO_2e/year)
Sustainable City Projects at India's Cleanest City- Indore	Indore Smart City Development Ltd	Energy industries Waste handling and disposal	**283,396**
Solid Waste to Energy Production Facility Sonepat	JBM Environment Management Pvt Ltd	Energy industries Waste handling and disposal	**152,616**
Solid Waste Management Project at Moradabad	HARI BHARI MORADABAD WASTE MANAGEMENT PRIVATE LIMITED	Waste handling and disposal	**52,510**
Waste Energy project in Andhra Pradesh & Rajasthan	MAHINDRA WASTE TO ENERGY SOLUTIONS LTD.	Waste handling and disposal	**21,855**
Varanasi Smart City Bio-Conversion Project	Gobardhan Varanasi Foundation SPV	Transport Waste handling and disposal	**4,741**

Deep dive ahead

- ULBs have registered waste projects via their Smart City SPVs, demonstrating that **urban bodies can access carbon markets if structured appropriately.**
- **Broad spectrum of estimated annual emission reductions demonstrate that both small and large-scale SWM initiatives can access the carbon market.**

Opportunity for BBMP

- BBMP to avail carbon credits for **Integrated solid waste management (ISWM) project**
- **Eligible processing activities-** Bio methanation, waste to energy, sorting, landfill
- Advantages of availing carbon credits-

New revenue stream unlocked	***Part of operational costs recovered***	***Climate & SDG commitments fulfilled***

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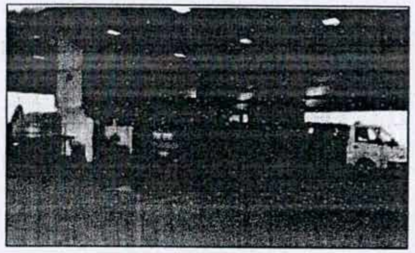
Case study | Indore implemented a carbon credit-financed solid waste management system through its SPV – Indore Smart City Development Ltd.

Smart City
INDORE
हम सबका सपना, स्मार्ट इन्दौर हो अपना



650 TPD Waste generated (organic + dry waste)

1.7 L Carbon credits issued

50 L Revenue generated from sale of carbon credits

Parameter	Details
Scope of activities	• 600 TPD composting • 35 TPD bio-methanation • 1.5 MW solar power
Carbon standard	Verra
Project proponent	Indore Smart City Development Ltd. (ISCDL)
Carbon consultant	EKI Energy Services Ltd. (EKIESL)
Waste processed	Over 650 tonnes/day (organic + dry waste)
Carbon credits issued	1.7 lakh tCO_2 (1st cycle of verification)
Net revenue earned	**INR 50 lakh** from the initial batch of credits (1st cycle of verification) (USD 0.5 per credit)
Costs incurred in overall process	**INR 20 lakh** (approx.)
Carbon Credits Sold To	Sold in the international voluntary carbon market via EKI Energy Services on a bulk basis (unstaggered)

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Carbon credits drive additional revenue through diverse eligible projects and growing global buyers

What are carbon credits?	• **Tradable certificate representing the reduction or removal of 1 metric ton of carbon dioxide** equivalent (tCO₂e) from the atmosphere
Who can avail/ sell carbon credits?	• **Private companies-** Renewable energy firms, cement plants, etc. aligning with net zero goals • **Governments and Urban Local Bodies-** Additional revenue generation through sustainable projects • **NGOs and social enterprises-** NGOs working in afforestation, clean cooking, rural energy for sustaining operations

Type of projects eligible for availing carbon credits

Solid waste management

- Aerobic composting of wet waste
- Biomethanation of organic waste
- Landfill methane capture
- Material Recovery Facilities (MRFs)
- Plastic waste recycling
- Biochar from garden/agricultural waste

Water and sanitation

- Sludge-to-energy or composting
- Wastewater treatment with gas recovery

Energy and buildings

- Solar installations in BBMP properties
- LED/public lighting retrofits
- Biogas plants in community kitchens

Horticulture

- Afforestation or reforestation
- Biochar use in soil in public parks

Typical buyers of carbon credits

Carbon marketplaces
Climate Impact X, AirCarbon exchange

Corporates and MNCs
Tech and IT firms, Airlines, FMCG and Retail firms

Carbon consulting firms
South Pole, EKI Energy Services

ESG Investors
Generation Investment Management, Brookfield Global Transition Fund

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Sustainability-linked Bonds can be used to refinance existing projects by corporations where the funds are aimed at reducing carbon footprints

Sustainability Linked Bonds

	Adani	Ultratech	JSW
Bond Issuance (Dollar Denominated Bonds)	$300 Million	$400 Million	$500 Million
Interest Rate	3.87%	2.8% coupon and yield 2.845% (final guidance of Treasuries plus 170bp, plus or minus 2.5bp)	5.05%
Landed Costs	Hedging (+2-3%) and transaction costs (1-2%)	+6% Hedging as Ultratech didn't have any natural hedge	Hedging (+2-3%) and transaction costs (1-2%)
KPIs and Sustainability Performance Targets(SPTs)	1. Increase Renewable power mix in the overall power purchase mix (proportion that Renewable Power Purchase represents of Total Power Purchased, expressed as a percentage), contributing to SDG7 (Affordable and Clean Energy) 2. KPI #2: Reduction in GHG Emission Intensity (measured by CO2 divided by EBITDA5 of AEML)	- UltraTech aims to emit no more than 557kg of carbon dioxide for every ton of cementitious material it produces by March 31 2030, which would be a 22.2% reduction from March 2017	FY 2022 to 2026, providing a target towards reducing the GHG emission intensity from its operational assets in India by ≈15% by FY 2026 to a level equal or less than 1.06 kg CO2e/tch, compared to FY 2021 GHG emission of 1.25 kg CO2e/tch taking account of direct (Scope 1) and energy indirect (Scope 2) emissions together

- Effective cost depends on achieving Key Performance Indicators (KPIs) and Sustainability Performance Targets (SPTs)
- Scope to consider for specific projects, if cost effective vs. existing loan sources

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Green Financing | Green Bonds in Private Sector raised at competitive rates - however effective rate depends on transaction cost and extent of natural vs. synthetic hedging

These 3 players have raised almost 80% of the green Bonds

	GreenKo	**ReNew**	**Continnum**	**Adani Green**
Bond Issuance (Dollar Denominated Bonds)	USD 950 Mn	USD 475 Mn	USD 300 Mn	USD 500 Mn
Interest Rate	5.55% per annum	6.67% per annum	7.25% per annum	6.70%
Landed Costs (Private players might have a natural hedge in terms of their exports/imports	+Transaction costs(1-2%)+ Hedging costs 2-3%	+Transaction costs(1-2%)+ Hedging costs 2-3%	+Transaction costs(1-2%)+ Hedging costs 2-3%	+Transaction costs(1-2%)+ Hedging costs 2-3%
Date of Issue	Feb-17	Jan-20	Oct-18	Mar-24
Location	Hyderabad	Gurgaon	Mumbai	GIFT City India International Exchange (INX)
Purpose (What asset)	To refinance existing debt and fund renewable energy projects, including wind and solar power plants	To finance new solar and wind energy projects and refinance existing high-cost debt.	Funding wind power projects and refinancing existing debt to improve financial stability.	To refinance its senior secured debt of 2019 ($500 Million)
Repayment Structure	Semi-annual interest payments with a bullet repayment at the end of the tenure.	Quarterly interest payments with a bullet repayment at maturity.	Semi-annual interest payments with a staggered principal repayment starting after 3 years.	Bullet repayment at maturity, meaning the entire principal amount will be repaid at the end of the ~~4~~8-year term.

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Green Financing | Better rated Municipal Corps. have been raising funds 60-70 bps higher than open market borrowings

	Ghaziabad Municipal Corporation	Indore Municipal Corporation	Pimpri Chinchwad Municipal Corporation
Bond Issuance	INR 150 crore	INR 244 crore	INR 200 crore
Interest Rate	8.1% per annum	8.25% per annum	8.15% per annum
Date of Issue	Apr-21	Feb-23	Jul-23
Where	Ghaziabad	Indore	Pimpri Chinchwad, Maharashtra
Purpose (What asset)	To fund a tertiary sewage and water treatment plant, aimed at improving environmental sustainability and urban infrastructure.	The proceeds from the green bonds are allocated to fund a 60 MW ground-mounted captive solar photovoltaic project.	To fund various sustainable urban infrastructure projects, particularly sewage treatment plants and water supply systems
Repayment Structure	The bond has a maturity of 10 years with a staggered redemption schedule.	Maturity of 3, 5, 7, and 9 years with staggered redemption	5 years maturity with staggered redemption
Moratorium	No specific moratorium on interest payments	No specific moratorium on interest payments	No specific moratorium on interest payments
Other Details	- Listed on the Bombay Stock Exchange (BSE). - Ratings: Rated AA by India Ratings and AA(CE) by Brickworks. - The bond was oversubscribed - Incentive: Received an INR 19.5 crore incentive from the Government of India for raising municipal bonds.	- Oversubscription by **5.91 times** - Listed on the National Stock Exchange (NSE).	Rated AA+ by CRISIL

Potential considerations

- Current Rating of Karnataka ULBs need to be considered while helping them raise fund at competitive rates
- Utilizing off-budget borrowings can help the state remain within the Fiscal Responsibility & Budget Management (FRBM) limits

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